

Contact	Phone
<i>New York</i>	
David Fanger	1.212.553.1653
Rosemarie Conforte	
Jeanne Del Casino	
Greg Bauer	
Laura Levenstein	
<i>London</i>	
Lynn Exton	44.20.7772.5454
Adel Satel	
Antonio Carballo	
<i>Madrid</i>	
Maria Cabanyes	34.91.310.14.54
<i>Tokyo</i>	
Mutsuo Suzuki	81.3.5408.4000
Yasunobu Doi	
<i>Singapore</i>	
Deborah Schuler	65.6398.8300
<i>Hong Kong</i>	
Jerry Chien	852.2916.1121

Request for Comment

Bank Financial Strength Ratings: Revised Methodology

Summary

This report details Moody's proposal to revise our rating methodology for assigning Bank Financial Strength Ratings (BFSRs) globally.¹ This revision does not change the main factors that Moody's considers in rating banks. However, the revised approach provides a single, global methodology instead of separate methodologies for mature and developing markets. It also establishes specific ranges for each factor that relate to different rating categories. The updated methodology is intended to provide investors and issuers with a transparent set of guidelines allowing them to better understand our rating process and how we reach our decisions.

To this end, we have developed a rating scorecard that uses a common set of globally available financial metrics together with key qualitative factors that Moody's analysts consider critical in evaluating a bank's intrinsic financial strength and specific weights for each factor. This scorecard will be used by Moody's analysts as the first step in determining BFSRs. It should also enable investors and issuers to independently estimate a BFSR for most banks within two notches. This report describes the scorecard and discusses some of its limitations as well as some of the further adjustments that Moody's analysts may employ in assigning BFSRs.

The revised methodology is also intended to improve the consistency of Moody's BFSRs. As previously announced, Moody's intends to incorporate joint-default analysis (JDA) into our assessment of external support for banks later this year.² We believe the updated BFSR methodology will help ensure that existing BFSRs are indeed "pure" measures of stand-alone financial strength and do not include external support. This is important in order to avoid double counting external support when we implement JDA for banks. We are requesting comments because we believe that the implementation of this methodology could lead to changes in the BFSRs for a significant number of banks, although we do not expect most of those to exceed 2 notches.

Readers should note that this methodology is not an exhaustive treatment of every factor considered by Moody's in assigning bank financial strength ratings, but it should enable our constituents to better understand how and why we arrive at a BFSR. Moody's welcomes comments or suggestions on this proposal from market participants. Comments should be sent to cpc@moodys.com by September 29, 2006.

1. Moody's current approach is outlined in the following Rating Methodology reports: "Bank Credit Risk -- An Analytical Framework for Banks in Developed Markets," April 1999 and "Bank Credit Risk in Emerging Markets -- An Analytical Framework," July 1999.
 2. Please see "Request for Comment: Incorporation of Joint-Default Analysis for Systemic Support into Moody's Bank Rating Methodology," October 2005; "Update to Proposal to Incorporate Joint-Default Analysis into Moody's Bank Rating Methodology," April 2006; and "Bank Joint Default Analysis: Rating Methodology Update," August 2006.

About Moody's Bank Financial Strength Ratings

Bank credit risk is a function of a bank's (i) intrinsic financial strength, (ii) the likelihood that it would benefit from external support in the case of need, and (iii) the risk that it would fail to make payments owing to the actions of a sovereign. Moody's assigns credit risk ratings to banks and their debt obligations using a multi-step process that incorporates both a bank's intrinsic risk profile and specific external support and risk elements that can affect its overall credit risk.

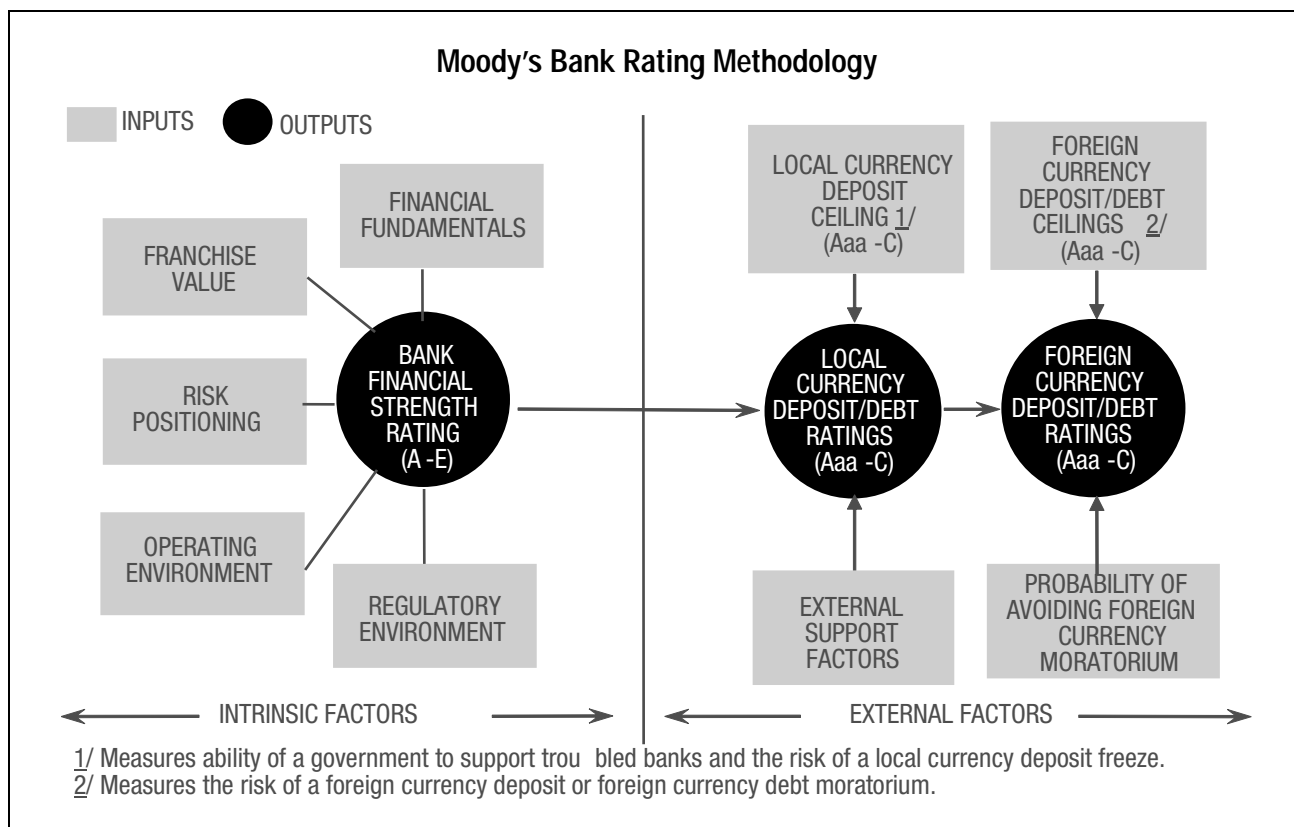
Moody's Bank Financial Strength Ratings (BFSRs) represent Moody's opinion of a bank's intrinsic safety and soundness. Assigning a BFSR is the first step in Moody's bank credit rating process.

Unlike Moody's deposit and debt ratings, BFSRs do not address either the probability of timely payment (i.e. default risk) or the loss that an investor may suffer in the event of a missed payment (i.e. severity of loss). Instead, BFSRs are a measure of the likelihood that a bank will require assistance from third parties such as its owners, its industry group, or official institutions, in order to avoid a default. BFSRs do not take into account the probability that the bank will receive such external support, nor do they address the external risk that sovereign actions may interfere with a bank's ability to honor its domestic or foreign currency obligations.

In order to differentiate Moody's BFSRs from our bank deposit and debt ratings, we use different rating symbols. Moody's BFSRs range from A to E, with "A" for banks with the greatest intrinsic financial strength and "E" for banks with the least intrinsic financial strength. A "+" modifier may be appended to ratings below the "A" category and a "-" modifier may be appended to ratings above the "E" category to identify those banks which are placed higher (+) or lower (-) in a rating category.

Moody's introduced BFSRs in 1995, and currently assigns them to almost a thousand banks and deposit-taking financial institutions worldwide. The factors considered in the assignment of BFSRs were described in Moody's last bank rating methodologies published in 1999, and continue to form the basis of our updated approach as described in this report. These include bank-specific elements such as financial fundamentals, franchise value, and business and asset diversification, as well as risk factors in the bank's operating environment, such as the strength and prospective performance of the economy, the structure and relative fragility of the financial system, and the quality of banking regulation and supervision.

The following diagram shows how BFSRs fit into Moody's overall approach to assigning bank credit ratings. The left side shows the principal factors that are used to determine a bank's BFSR. This report describes how these are measured and analyzed to derive a BFSR.



The right side of the diagram summarizes the specific external support and risk elements that are combined with the BFSR to determine Moody's local currency and foreign currency deposit and debt ratings. In October 2005 Moody's proposed to incorporate joint-default analysis (JDA) into how it evaluates external support factors for banks; we published updates on this proposal in April and August 2006. We expect to publish and implement a final methodology incorporating JDA into Moody's bank credit ratings later this year.

The BFSR will be mapped directly to the baseline credit assessment in Moody's JDA framework. Like the BFSR, a baseline credit assessment is a measure of an issuer's stand-alone default risk assuming there is no systemic or other external support. For banks, the baseline credit assessment reflects what the local currency deposit rating would be without any assumed external support from a government or other third party. In the October 2005 request for comment we published a mapping showing how Moody's BFSRs translate into a baseline credit assessment for banks using Moody's traditional alphanumeric rating scale.

A more detailed discussion of how Moody's evaluates the risk elements that affect foreign currency ratings for banks can be found in the 1999 bank rating methodologies, as well as in more recent publications.³

About the Rated Universe

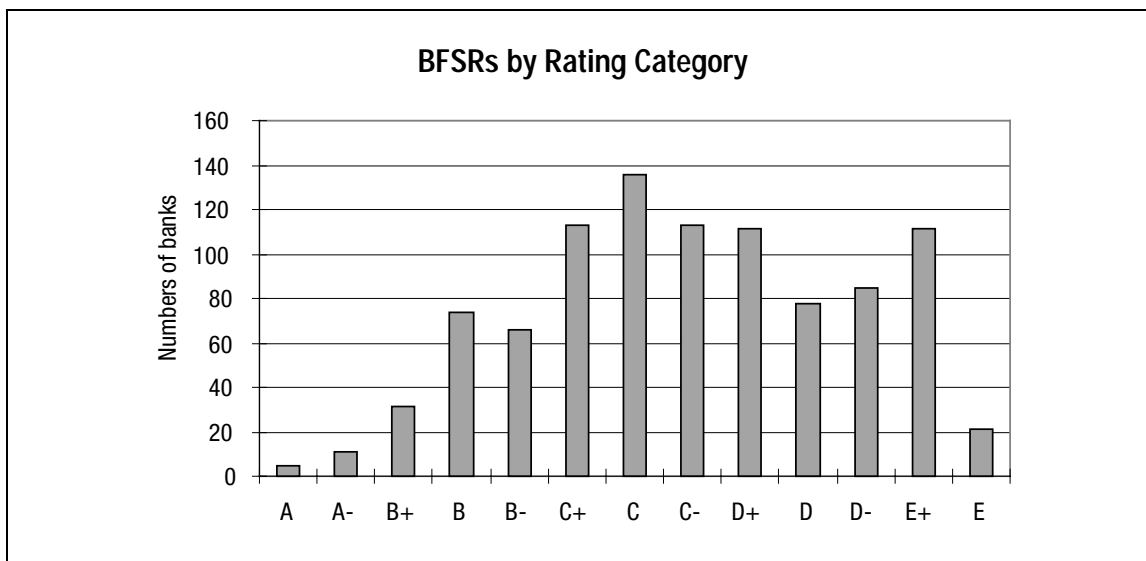
Moody's currently assigns BFSRs to 959 financial institutions globally (as of August 21, 2006). These financial institutions generally fall under the category of deposit-taking institutions, including commercial banks, savings banks, building societies, cooperative banks, thrifts, and government-owned banks. Moody's BFSRs may also be assigned to other types of financial institutions such as multilateral development banks, government-sponsored financial institutions and national development financial institutions.

In a number of countries Moody's also assigns BFSRs to a variety of other financial institutions (such as mortgage banks or other specialized banks) that, although they do not take deposits, are still chartered and regulated as banks and usually obtain some funding from the interbank market.

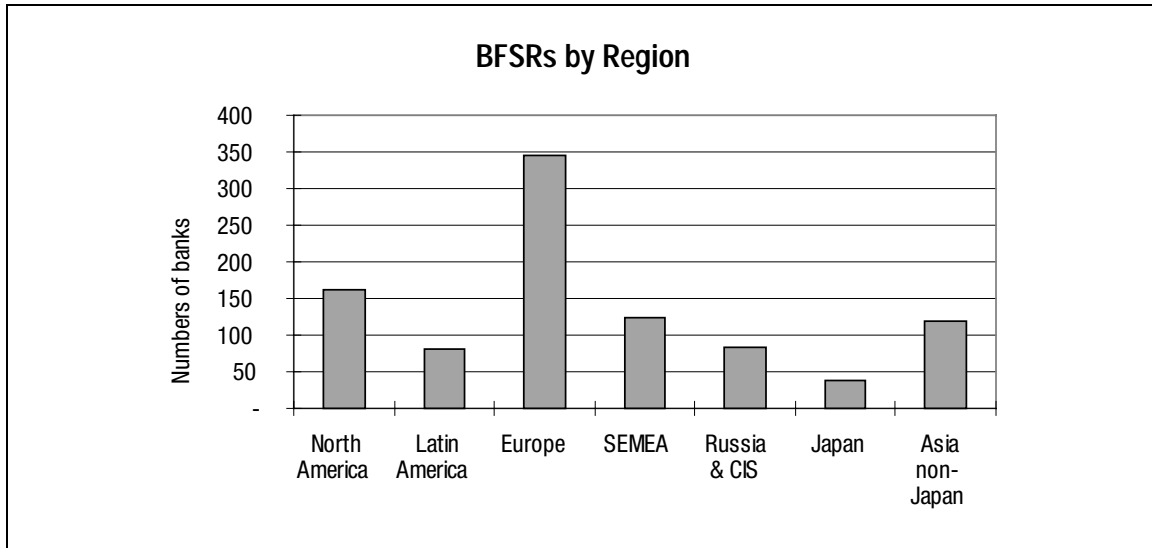
BFSRs are generally assigned to individual banks, including those that are subsidiaries or affiliates of another bank. Therefore, there are some banking groups that have a number of banks with different BFSRs.

The rated universe is spread throughout the world, with the highest concentrations in Europe, followed by the Americas, Asia (excluding Japan), Japan and the Middle East. Rated banks range in size from over \$1 trillion in total assets to as small as \$150 million. Some may be truly diversified global institutions, while others may operate on an extremely limited scale in a small local market.

Distribution of Moody's Bank Financial Strength Ratings



3. Please see "Revised Country Ceiling Policy," June 2001; "Emerging Market Bank Ratings in Local and Foreign Currency: The Implications of Country Risk and Institutional Support," December 2001; "The Implications of Highly Dollarized Banking Systems for Sovereign Credit Risk," March 2003; and "Piercing the Country Ceiling: An Update," January 2005.



The inherent riskiness of the banking business – as characterized by high leverage (equity capital of only 5-10% of total assets), illiquid assets (loans) financed by short-term liabilities (deposits), and a cyclical business environment – makes it difficult for all but a select number of banks that are generally extremely large and diversified to achieve and maintain a BFSR in the range from A to a high B. Solid, diversified and sustainable franchises and excellent management are also necessary attributes of A and B BFSRs.

However, barring systemic stress and provided there is reasonable client confidence, banking, if conservatively managed without excessive risk-taking, is also a business allowing a stable generation of interest and fee income, albeit perhaps at a lower level of overall profitability. Therefore, BFSRs in the C category are generally available to a large number of banks even if they have limited scale and franchises, and average financials. Many institutions fall under this category. BFSRs of D are generally assigned to those that either are exhibiting modest capital, earnings, or business franchise, thus limiting their ability to deal with asset quality problems or other potential balance sheet risks, or are subject to unpredictable and unstable operating environments. BFSRs of E are typically restricted to those institutions that are under pressure to maintain their capital due to external and internal factors such as a highly volatile operating environment, recurring losses and asset quality problems, or a very high risk profile. However, regulatory forbearance can allow even insolvent banks to operate for an extended period of time, until the regulatory authorities arrange for either a rescue or a restructuring, or place the bank into liquidation.

Industry Overview and Current Risk Characteristics

The global banking industry is made up of a highly varied group of firms offering a wide range of products and pursuing a wide range of business models and customers. While most banks face the same fundamental risks -- credit risk, liquidity risk, market risk, interest rate risk, and operational risk -- the extent of such risks vary considerably depending upon the products sold, the bank's funding profile, and the markets in which it operates.

General vs. Specific Risks

Banking risk can be broadly divided into general risks, which apply to all banks within a system and derive to a large extent from a country's economic strength, and specific risks, which are the product of the bank itself. In mature markets, it is rare for serious difficulties experienced by a bank to be solely attributable to general risks, even though such risks certainly do have an impact on the bank's performance. In most cases, bank failure in mature markets is the result of factors such as mismanagement, risky strategies, structurally poor performance, and franchise collapse. It is, in general, the weak banks and the highly risky banks that are the first to suffer in a shrinking or increasingly competitive market.

In developing markets, general risks loom larger. Not only can general risks be more severe, but it may also be difficult for any bank to avoid the consequences of a severe economic shock (such as a massive currency devaluation) or a deep economic recession. Clearly, banks which are better managed and have stronger earnings, franchises, and balance sheets are better placed to cope with general risks. However, in cases where general risks present a significant threat to the banking system of the country in question, it may well be that no bank can be assigned a BFSR at the upper end of the scale.

Five Broad Categories of Banking

Overall, the diversity of the sector can be broken down into five broad categories of banking institutions. Many banks may actually pursue a combination of these models, but we believe it is useful to address each of them separately to clarify the different risks that different banks can face.

1. Wholesale banks: These banks focus on serving large corporate or institutional customers. While many wholesale banks have traditionally focused primarily on lending (and, in some countries, making equity investments), they frequently offer a much broader array of services to their customers, including not just loans but also treasury management and transaction services, foreign exchange services, trade finance, derivatives, debt and equity underwriting and market-making, and insurance. Because their customers are often very large entities, wholesale banks, especially smaller ones, can have significant customer concentration risks; they may also have industry concentration risks, especially if they operate primarily within a particular region or market. Also, while a portion of their activities may be funded with corporate customer deposits, typically such banks are heavily reliant upon wholesale funding from both the interbank and capital markets. Such funding can be highly confidence-sensitive, exposing the bank to substantial liquidity risk if it is not conservatively managed.⁴

Since their customers tend to be concentrated in larger cities and economic regions, wholesale banks generally do not require as substantial a physical presence as most retail banks. With fewer fixed costs, this often means a more flexible cost structure. However, customers can develop strong relationships with individual bankers (instead of with the bank itself), making retention of personnel a critical element to long-term success.

As discussed below, both globalization and the growth of local capital markets can pose significant challenges for wholesale banks, as more of their customers have the ability to tap the capital markets directly for funding. This can lead to greater earnings volatility, as wholesale banks increase their capital markets activities in order to retain their customers, and also expand into potentially riskier lending businesses to replace lost lending opportunities.

2. Retail banks: These banks focus primarily on serving individuals and/or small and middle market businesses. They may offer a wide array of products, including deposit-taking and lending, asset management and insurance, cash management and transaction services, and even trade finance and foreign exchange services. A defining feature of such banks is that they are often locally or regionally focused. This reflects the retail nature of the customer base. While some functions may be centralized, direct customer interaction remains an important part of the service most retail banks provide. Given the wide dispersion of potential customers (both individuals and businesses), and their preference for local interaction, this requires a physical presence in the form of retail branches. Many retail banks also site their branches in clusters to benefit from classic network economies, although this is not always the case. (This is especially true for retail banks serving individuals; retail banks serving only small and middle market businesses may have less need for clusters of branches, but are still likely to require more branches than a wholesale bank.) As retail banks grow, they may develop more and more clusters of branches, growing from merely a local or regional presence into a national or even international one. Nonetheless, even an international retail bank can usually best be thought of as a combination of local retail banks.

Given the need to have a significant physical infrastructure and to support significant daily customer transaction volumes, most retail banks have fairly inflexible cost structures. This makes stable revenue generation critical. To address this need, most retail banks focus on generating recurring business with relationship customers and increasing the level of cross-selling of products including insurance products. Because their customers are small, retail banks do not usually have significant customer concentration risks; however, they may still have industry concentration risks since they frequently operate within a particular region.⁵

Retail banks are often funded primarily with customer deposits. However, pressure to grow assets and earnings, especially in more mature markets, can lead to loan growth that far outstrips deposit growth. Such banks must rely more heavily upon wholesale funding, which can pressure net interest margins, reducing the bank's profitability, while at the same time also exposing it to greater liquidity risk and interest rate risk.

As discussed below, both de-regulation and technological innovation can pose a significant threat to retail banks because they provide their customers with greater access to competing products through alternative distribution channels, and may also reduce competitors' costs to provide those products. While retail banking has not traditionally possessed much in the way of economies of scale, to the extent that such technological innovations create economies of scale, it may pose even greater challenges to the smaller retail providers.

4. Please see discussion of Liquidity Management under Rating Factor 2.

5. Please see discussion on Credit Risk Concentrations under Rating Factor 2.

3. Universal banks: These banks are not so much a separate business model from either retail banks or wholesale banks, but rather are usually characterized by a combination of retail banking and wholesale banking, frequently also combined with activities such as private banking, asset management, or insurance. Universal banks often rank among the largest banks in a country. Universal banking can potentially provide greater earnings diversification as well as a more stable funding profile (to the extent that the more deposit-rich retail banking activities provide funding for some of the wholesale activities) than either retail banking or wholesale banking can provide on their own. However, the complexity of managing a universal bank can require considerable managerial resources. Furthermore, the disparate activities of a universal bank can at times pose conflicts of interest which, if not carefully managed, can cause reputation damage, harming the franchise. In some jurisdictions, the complexity of a universal bank also raises questions about the depth or effectiveness of regulatory oversight over such disparate activities.

4. Policy banks: Moody's defines policy banks as state-owned institutions that have explicit or implicit public policy mandates. Some state-owned banks have specific public policy mandates. These banks are often heavily dependent on government-directed business, which may or may not be profitable. Other state-owned banks, while not subject to specific public policy mandates, may still have to contend with bureaucratic controls and pressure from politicians that forces them to lend to certain favored industries or regions. Even though such banks may have substantial market shares, they frequently have weak earnings, lack strong management, and suffer from poor asset quality and controls. This usually translates into low BFSRs, although such banks also usually benefit from regulatory forbearance or other forms of government assistance, providing support to their deposit and debt ratings. Even when well run, policy banks usually still have substantial industry concentrations, reflecting their reason for being or the limitations of their charters.

5. Specialized banks: These are niche players, most often specialized lenders such as mortgage banks, development banks, public-sector lenders, credit card banks, or export-finance entities. Some are the legacy of past government policies and regulatory barriers that disappeared following deregulation and liberalization, while others were formed as a direct result of deregulation and technological innovation. Because they often have limited product offerings and/or a limited customer base, specialized banks can be more vulnerable to competitive pressures or changing economic conditions. However, some specialized banks, either by virtue of still-strong regulatory barriers or through substantial economies of scale and a dominant market share, usually combined with a focus on less volatile loan products such as public sector lending or mortgages, can still support high BFSRs. As with wholesale banks, specialized banks are typically heavily reliant upon wholesale funding. Such funding can be highly confidence-sensitive, exposing the bank to substantial liquidity risk if it is not conservatively managed.

Although the risks are somewhat different, we also include **captive banks** in this category. Captives are usually owned or controlled by an industrial corporation and are used to provide financing for customers purchasing products sold by the corporation, and/or to provide internal financing to the corporate and its affiliates, serving in essence as the corporate's treasury function. Similar to other specialized banks, captives tend to have limited product offerings and a limited customer base. Even when they are lending to customers rather than to the corporate itself, their performance can still be significantly affected by the performance of the corporate.

Key Industry Risks: Transformation Will Continue, Whether Banks are Ready or Not

The global banking industry is in the midst of a significant transformation, driven by substantial changes in the business environment. This transformation, begun in some countries well over a decade ago, is now occurring at different rates of change in most countries around the world. While much of the change is occurring in mature markets, developing markets are also affected. These developments pose significant challenges and risks for all banks. Many banks are struggling to adjust to the substantial changes already underway. Moody's expects that many banks will not succeed in making the transformation, and will either be driven to consolidate with a more successful competitor or will gradually weaken as its franchise and earnings power are eroded away. Six major catalysts are driving this transformation.

- **Deregulation** – is breaking down barriers within the banking industry in many countries and enabling banks to adopt diversification strategies and to compete against each other on a level playing field. In some countries it is also allowing for the entrance of new specialized competitors.
- **Disintermediation** – a byproduct of deregulation, it is brought about by financial liberalization and the expansion of capital markets, allowing both borrowers and investors to bypass banks in favor of capital market products. The growing trend towards privatization of pension funds is also creating a growing pool of funds managed by investment professionals, helping to fuel this trend.
- **Technological Innovation** – is reducing transaction and information costs, facilitating the creation of new distribution channels, and allowing for innovation in retail lending (data mining), funding (securitization), and risk management (derivatives). At the same time, such technologies may also be creating potential economies of scale where none previously existed.

- **Globalization** – pressures banks to follow their business customers around the world, and forces them to compete with other banks globally for those customers’ business. Globalization gives banks in developing markets access to growing pools of funding due to the growth of global capital markets. However, many banks obtaining first-time access to wholesale funding have shown themselves to be ill-equipped for the liquidity risks such funding can pose.
- **Privatization** – Governments are increasingly seeking to get out of the business of banking. While this is clearly not universal, and in some cases is being done with great reluctance, nonetheless the privatization of formerly state-owned banks could potentially reduce subsidized competition, benefiting all banks competing in the same market. However, the social or political costs of such actions may be more than some governments are willing to tolerate. And for the management of formerly state-owned banks it can be a considerable challenge to develop a credit culture based on analyzing a client’s ability to repay loans, as opposed to relying on imputed state guarantees.
- **Increased shareholder power** – with more banks being owned by private investors and with more investment funds being managed by professional investors, banks globally are facing increasing pressure from powerful institutional shareholders for higher returns. To remain competitive in this more unforgiving market, banks are increasingly shifting to shareholder value-creation strategies, which may not always benefit bondholders.

Framework for Assigning Bank Financial Strength Ratings

Moody’s bank ratings reflect our opinion of long-term relative risk and are, of necessity, forward-looking in nature because they apply to liabilities that may pay out over long periods of time. Historical experience has shown that looking only at the current financial condition of a bank is not always an accurate predictor of its future financial performance and financial strength. We believe there are significant qualitative factors which play an important role in determining the stability and predictability of a bank’s financial performance over time. Thus Moody’s analytical approach includes significant qualitative analysis in addition to quantitative analysis, and incorporates the opinions and judgments of experienced analysts.

As noted above, the factors considered in the assignment of Bank Financial Strength Ratings were described in Moody’s last bank rating methodologies published in 1999, and remain at the basis of the updated methodology. We focus on five key rating factors that we believe are critical to understanding a bank’s financial strength and risk profile. They are:

1. Franchise Value
2. Risk Positioning
3. Regulatory Environment
4. Operating Environment
5. Financial Fundamentals

In the following sections we review the five key rating factors, discuss why each factor is important to our BFSRs, and explain the relevant metrics or “sub-factors” that we use to measure performance for each key rating factor. Some of the metrics that we consider important are purely quantitative, while others include elements of qualitative judgment or – where hard data is not reasonably accessible — educated estimates. For those involving a qualitative assessment, we have provided qualitative descriptions that we believe help to differentiate among risk profiles at different banks. To dampen the cyclical nature of the industry, most of the financial metrics we use are three-year averages.

For each of these factors, the methodology outlines in a summary mapping table either the range of financial metrics or the qualitative description that would typically correspond with a given BFSR level, ranging from A to E.

Evaluating Outliers

It is unlikely that every bank’s BFSR will be consistent with the rating level guidelines for every rating factor. This is because a bank typically has a variety of strengths and weaknesses which combine to reflect its overall financial risk profile. For those banks that show up as frequent outliers for their respective rating category, there could be several different explanations. The most obvious one would be that there is likely pressure on its BFSR, either up or down. But there also may be unique characteristics of the bank’s accounting, regulatory or market environment that limit the comparability of certain key factors and metrics. And finally, some elements of the bank’s business or financial profile may receive greater weight in our analysis.

In measuring a bank's performance under the key rating factors, we have intentionally selected quantifiable metrics that are available for most banks globally from publicly reported financial statements. However, while these metrics may be globally available, they are not always globally comparable. Local differences in accounting conventions, Basel risk-weightings, and asset quality definitions can make it more difficult to compare these metrics across countries and regions. Therefore, in the sections below we also provide examples of where additional adjustments may be required, or additional metrics may be considered to improve comparability. In this regard, the analyst's interpretation of such metrics, as well as the consideration of regional/supplemental metrics, provides further insight and analysis. Furthermore, we anticipate that there may be modifications to the ratios (but not rating factors) over time as Basel II is implemented.

Relative Importance of the Key Factors Can Vary

To maximize the transparency and consistency of our rating approach, this framework is applied to all banks globally. However, the relative importance of the different key rating factors varies among banks globally in several important ways.⁶

First, Moody's believes that banks in developing markets face a substantially different set of challenges than banks in mature markets. Banks operating in mature markets generally benefit from more effective financial reporting and regulatory environments that allow outside observers to ascribe more weight to available disclosed financials in making credit decisions. On the other hand, the higher degree of economic volatility in developing markets, as well as the potential for weaker regulatory oversight and less reliable financial reporting, indicates the relative riskiness of relying heavily on the current disclosed financial numbers for banks in developing markets.

Therefore, while Moody's puts a heavy emphasis on financial fundamentals in assigning BFSRs to banks in mature markets, this is significantly less the case for banks in developing markets. As discussed in greater detail later on in this methodology, in our scorecard we assign a 70% weighting to financial fundamentals for banks in mature markets, with the four other key rating factors receiving a combined weighting of 30%. However, for banks in developing markets, this weighting is reversed, so that financial fundamentals are only weighted at 30%, with the four other key rating factors receiving a combined weighting of 70%.⁷

Second, within the four other key rating factors (the qualitative factors) Moody's also shifts the emphasis between banks in mature markets and banks in developing markets. As noted above, the regulatory environment is often more uncertain in developing markets, and the operating environment is typically more volatile. Therefore, within the qualitative rating factors, Moody's puts relatively more weight on the regulatory and operating environments in assigning BFSRs to banks in developing markets.

Finally, in determining a bank's relative risk profile within each of the five key rating factors, each relevant metric or "sub-factor" is generally assigned equal weight (there are some exceptions to this, which are described in the sections below). However, especially with Risk Positioning, Moody's believes there are some metrics or sub-factors for which a high risk profile should receive extra weight. These include situations where a bank has a very high concentration to individual borrowers or to an industry, a very high level of related-party loans, or where a bank has weak controls and senior management has a poor awareness of the risks of the firm. In such circumstances, we believe that these high risk elements should negate other potentially more positive aspects of the bank's risk profile, and the relative importance of the sub-factors is adjusted accordingly.⁸

6. Later in this methodology we describe a rating prediction model that combines the key rating factors using specific weightings, and show how those weightings can vary. A full set of the weights used in our rating predictor model can be found in Appendix A.

7. Although there are many ways to make a distinction on this issue, Moody's will base its distinction on the level of the foreign currency (FC) deposit ceiling for each country. If the FC deposit ceiling of the country is Aaa or Aa1, we will regard such market as mature. If not, we will regard such market as developing.

8. This is discussed more fully under Rating Factor 2: Risk Positioning.

Rating Factor 1: Franchise Value

Why It Matters

The assessment of a bank's Franchise Value is a central element in our analysis. Franchise Value is about the solidity of a bank's market standing in a given geographical market or business niche. A solid and defensible Franchise Value is a key element underpinning the ability of an institution to generate and sustain recurring earnings, to create economic value and, thus, to preserve or improve risk protection in its chosen markets. As such, institutions with strong Franchise Value should be better positioned to withstand prolonged difficult market conditions. Moody's looks at five sub-factors to assess an institution's Franchise Value:

1. Market Share and Sustainability
2. Geographical Diversification
3. Earnings Stability
4. Earnings Diversification
5. Vulnerability to "Event Risk"

Market Share and Sustainability

The first sub-factor we consider is an institution's market share and its long-term sustainability. Large market shares suggest an entrenched market positioning with strong brand name recognition that tends to come hand in hand with high pricing power. These elements act as barriers to entry to other players and as such are indicative of the likely sustainability of a bank's positioning and its ability to defend itself from competition.

Geographical Diversification

The second sub-factor we assess is an institution's degree of geographic diversification. In general, excessive concentration on lending in a single geographic area with relatively undiversified economies heightens an institution's credit risk profile and plays an important role in weakening asset quality. Conversely, good diversification across geographies that enjoy highly diversified economies enables an institution to ride through business cycles without undue harm to its asset quality. The importance of this sub-factor is also highlighted by the fact that limited geographic diversification tends to come hand in hand with high borrower and/or industry concentrations, two sub-factors which are heavily penalized in our rating methodology (see under "Risk Positioning").

Earnings Stability

The third sub-factor we take into account is the degree of predictability of an institution's main business lines. In this regard, we favor retail-based institutions given their highly predictable risk-adjusted earnings stream which is an invaluable asset in times of volatility or stress. Banks that are highly reliant on less predictable earnings (e.g. wholesale and corporate banking, trading) tend to have more volatile results that may vary significantly in very short periods of time, driven by market factors that tend to be outside banks' control. We note that the analysis of the predictability of a bank's main business lines is an integral component of an assessment of its risk management and positioning as, in most instances, volatility indicates risk.

Earnings Diversification

The fourth sub-factor we analyze is the degree of diversification of an institution's main business lines. Excessive reliance on one or a limited number of business lines can make an institution highly vulnerable to potential changes in market dynamics which could be sudden and unpredicted with no offsetting earnings stream to protect the institution's economic solvency.

Vulnerability to "Event Risk"

The fifth sub-factor attempts to measure a bank's vulnerability to "event risks." Event risk refers to the risk that an event could occur which permanently damages a bank's franchise value by impairing its reputation, significantly increasing its costs, or otherwise reducing its earnings coverage. Such events can include a bank's being subject to significant adverse publicity, litigation, or regulatory sanctions over its business activities; management's decision to spin off a business to its shareholders; changes in political regimes; fiscal changes; or changes in tax laws, regulations, or patents.

Summary of Factor Mapping – Franchise Value

	A	B	C	D	E
Market Share and Sustainability	Dominant in a broad (multi-product) business line with very strong, largely unthreatened market position and pricing power (i.e. tier-1), either nationally, OR in a defensible region (i.e. a region where customers cannot easily switch to a competitor located outside the region). In both instances, institutions should have a very high share of the customer wallet (typically above 4 family products per customer), enjoy strong brand name and display very high sustainability.	Important but not dominant (i.e. tier-2) either nationally, OR in a defensible region. In both instances, institutions should have a high share of the customer wallet (typically 3-4 family products per customer). This category also includes tier 1 institutions in a niche product line. All banks in this rating category should enjoy strong brand name and display very high sustainability.	Good national or regional market positioning but neither tier-1 nor tier-2 player, OR a tier-2 institution in a niche product line; OR institutions with a price- or service-sensitive customer base.	Marginal players nationally, regionally or in a niche product line; OR institutions with a highly price/ service-sensitive customer base.	Institutions without recognized brand name; OR institutions with insignificant market share; OR institutions with unclear market positioning.
Geographical Diversification*	Significant operations in multiple major markets. No major market constitutes > 50% of profits. Markets must also be lowly correlated and enjoy highly diversified economies.	Significant operations in one major market or multiple large markets (>25% of profits from outside home market). Typically operates in several mid-sized countries or one large country which comprises several large markets. Markets must also be lowly correlated and enjoy highly diversified economies.	Significant operations in one large market or multiple midsized or regional markets (>25% of profits from outside home market). Markets must also be lowly correlated and enjoy well-diversified economies.	Significant operations in one midsized or regional market or multiple local markets. Markets must also be lowly correlated and enjoy reasonably diversified economies.	Significant operations in a midsized/regional or local market that does not enjoy a diversified economy.
Earnings Stability**	Combined earnings from the Retail Banking/Consumer Lending, Asset Management, and Fiduciary/Transaction Services business lines are > 80% of total profits.	60% - 80%	40% - 60%	20% - 40%	less than 20%
Earnings Diversification**	No single business line accounts for more than 40% of total profits, and the three largest lines account for no more than 75% of total profits.	No single business line accounts for more than 40% of total profits, and the three largest lines account for no more than 90% of total profits.	No single business line accounts for more than 50% of total profits, and the three largest lines account for no more than 90% of total profits.	Largest business line accounts for more than 50% (but less than 70%) of total profits.	Largest business line accounts for more than 70% of total profits.
Vulnerability to "Event Risk"***	< 5% of Tier-1 capital OR < 10% pre-tax profits are at risk	5%-15% of Tier-1 capital OR 10%-20% of pre-tax profits are at risk	15%-30% of Tier-1 capital OR 20%-40% of pre-tax profits are at risk	30%-50% of Tier-1 capital OR 40%-50% of pre-tax profits are at risk	> 50% of Tier-1 capital OR > 50% of pre-tax profits are at risk
<p>* A market is defined based on economy and population, NOT based solely on political boundaries. A major market has GDP > \$US1 trillion and population > 50 million. A large market has GDP of \$300 billion - \$1 trillion and population of 5-50 million. A midsized or regional market has GDP of \$100-300 billion and population of 1-5 million. A local market has GDP under \$100 billion and population under 1 million.</p> <p>**Based on division of the bank's pre-tax earnings into the following 6 business lines: (1) Wholesale/Corporate, Investment Banking, & Trading, (2) SME/Middle Market Banking, (3) Retail Banking/Consumer Lending, (4) Asset management, (5) Fiduciary/Transaction Services (incl. Cash Management + Custody), and (6) Insurance.</p> <p>*** Such as changes in ownership, spin-offs, tax laws, regulations, patents, fiscal changes, litigation scandals, among others.</p>					

Measurement Challenges and Other Considerations

Market Share & Sustainability

The assessment of the strength and sustainability of a bank's market share should focus not only on the analysis of its positioning on different business franchises, but also on the dynamics and trends of the market in which it operates. As such, banking markets display various levels of concentration, financial disintermediation, degree of competition and/or de-regulation and protection, which translate into varying degrees of barriers to entry. We believe that the analysis of these factors, together with the assessment of each bank's own competitive advantages, is key to explaining current market shares and, more importantly, their likely developments going forward.

Geographical Diversification

Given the very broad universe of rated banks, we have chosen to define markets based on economy and population, not solely on political boundaries. Some banks may operate with a substantial presence throughout an entire country, but if that country is small and not economically diversified, then the bank's geographic diversification may indeed be more limited than that of another bank that operates only within a region of a larger or more diversified country.

It is important to mention that we will only consider a bank to operate in a broader market if a significant part of its operations is generated in the broader market. For instance, if a regional bank makes most of its earnings in a local market, then we will categorize it as such, even if it has a nationwide presence in a country that fits the large market definition. Moreover, if a bank is present in several markets, we give only limited credit to such diversification if the geographies in question are highly correlated or do not enjoy highly diversified economies. In the process of understanding the economic characteristics of the markets in which our rated banks operate, we seek the contribution of our sovereign team.

Earnings Stability and Earnings Diversification

For the purpose of measuring an institution's earnings stability and earnings diversification, we have identified 6 business lines. Not all banks disclose their earnings by business segment. Furthermore, even among those that do, their segment disclosure may not be entirely consistent with the business line breakdown we have identified. Where existing disclosure is not sufficient, we will attempt to estimate business line earnings based upon balance sheet and income statement composition, as well as upon discussions with management.

To measure earnings stability, we have characterized three of the identified business lines as inherently stable. We recognize, though, that within each of these business lines there may be areas, activities and products whose characteristics may differ from the rest of that business line, suggesting a different treatment. Moreover, it should also be taken into account that market dynamics may differ from country to country – sometimes driven by factors such as different tax treatments or behavior patterns – which could also lead to a different categorization of these business lines or of aspects of it. In these instances, analysts' judgment will be particularly important. Finally, we note that the predictability of a bank's main business lines cannot be analyzed in isolation as it forms an integral component of an assessment of the bank's risk management and positioning given that, in most instances, volatility indicates risk.

Vulnerability to "Event Risk"

Exposure to "event risk" is probably one of the most challenging metrics to quantify due to the very different and broad nature of the possible events that could eventually impact – either positively or negatively – a bank's creditworthiness. Analysts' judgment to assess the magnitude of such impact, which could be material, as well as the likelihood of such an event happening will be key in this analysis.

Rating Factor 2: Risk Positioning

Why It Matters

A bank's risk positioning is a fundamental qualitative factor in Moody's credit analysis. The majority of revenue for most banks is compensation for taking calculated risks. Management's approach to managing risks -- be they credit, market, trading, reputation, or operational, to cite a few -- are key ingredients underpinning their strategic decisions and the chance of such decisions succeeding. We look to see to what extent risk discipline is aligned with the bank's strategy. Our view is that the more integrated risk management is with the bank's overall operating philosophy, the more likely it is that different operating units will make the discipline an integral part of how operations are managed.

In our analytical approach, our starting premise is that a framework that relies on a combination of qualitative and quantitative assessments can provide great insights about a bank's risk management discipline and ultimate effectiveness. Risk management should aim to reduce or control the risks that banks face – be these customary (day-to-day activities), cyclical or event-driven – or take advantage of them, when beneficial to the bank. Taken together, these risks impact the core profitability and earnings predictability and may even, at an extreme, severely damage a bank's credit standing in a matter of days if they are not managed appropriately (e.g. Barings Bank, Allfirst Bank, Bawag PSK).

We use six sub-factors in assessing Risk Positioning and aggregate these six sub-factors into a single score which then forms part of the qualitative assessment of the bank. They are:

1. Corporate Governance
2. Controls
3. Financial Reporting Transparency
4. Credit Risk Concentration
5. Liquidity Management
6. Market Risk Appetite

Corporate Governance

Corporate governance of a bank is an important analytical consideration. High-quality corporate governance reduces the likelihood of future problems and speeds remediation when problems occur. Moody's sets a high standard for bank governance, because we believe that financial institutions generally are more confidence-sensitive than corporates, particularly in their funding. Corporate governance focuses not only on the relationship between the boards of directors (also known as supervisory boards, hereinafter referred to as the "board"), management and shareholders, but also on the degree to which the board and management team have shown that they effectively balance shareholder *and* creditor interests.

Within the global BFSR methodology, we focus on particular aspects of corporate governance which are fairly easy to observe or measure and which we consider to be potential 'red flags'. When one of these governance issues is identified, the bank will be assigned a D or E on this sub-factor, depending on the severity of the problem. Where none of these red flag issues are identified within a bank, corporate governance is considered neutral, and contributes neither positively nor negatively to the BFSR. The factors we consider in evaluating a bank's corporate governance are:

- (a) Ownership and Organizational Complexity
- (b) Key Man Risk
- (c) Insider and Related-Party Risks

(a) Ownership and Organizational Complexity. Moody's believes that when ownership control is concentrated within a bank or where the ownership structure is complex (such as through multiple minority ownership interests or pyramid structures), it can be more difficult for the board to exert independent oversight over the controlling shareholder. Arguably, large shareholders, particularly family owners, can encourage long-term decision-making. Nevertheless, the board of directors of a controlled entity must manage potentially difficult conflicts of interest between the controlling shareholder's interests and those of the minority shareholders (whose interests are analogous to those of creditors, in governance terms). The task of the board is made more difficult when the organizational structure is highly complex and/or when the controlling shareholder holds key management positions.

(b) Key Man Risk. Moody's overall assessment of management quality is embedded in a range of BFSR factors, for example, the bank's strategic positioning and financial track record. A critical additional element of such an assessment is the degree to which the bank is highly dependent on a single executive or group of executives, particularly where these individuals dominate key decision-making positions. To the extent that there are such dependencies, we believe this can create "key man" risk, whereby the loss of such talent could adversely affect the bank's future fundamentals. Moody's believes boards would be challenged to cope with the loss of key executives in such a context, even where management succession planning processes are robust.

(c) Insider and Related-Party Risks. A strong independent credit approval process is essential to a bank's creditworthiness. We believe that significant extensions of credit to "insiders"—so-called related-party loans⁹—can suggest that underwriting standards are circumvented, or at a minimum create the appearance that underwriting standards are not applied uniformly. Such loans can also create credit concentrations that are more difficult for the board or management to handle than other such concentrations because of the inherent conflicts of interest. These loans are particu-

9. *Related-party loans as defined locally, but to include loans to: (a) executive officers - including top 5 to 10 senior managers, their immediate family members, and any companies in which they control more than a 5% interest; (b) board members - including all non-executive or supervisory board members (and any executive or management board members not included in (a) above), their immediate family members, and any companies for which they work or in which they control more than a 5% interest; (c) major shareholders - including any company or person controlling more than a 5% interest in the issuer; (d) non-controlled affiliates - including any minority-owned or non-consolidated affiliate or subsidiary in which the issuer controls more than a 5% interest; and (e) public sector entities/municipalities/regions when the bank is government-owned or controlled.*

larly worrisome, in our view, when they are to a controlling shareholder or bank executives (or entities associated with either). We believe that low board independence also increases a bank's risk profile, because there is limited independent oversight of insiders, including management or the controlling shareholder.¹⁰ For this reason, Moody's believes that some independent director presence on the board is important and will score poorly those banks that do not appoint independent directors, regardless of the ownership structure.

Controls

We regard a well-functioning and deeply imbedded system of controls and internal checks and balances as a means of reducing operational risk and the overall risk profile of the bank. We note that control issues at banks have increased in recent years, reflecting the higher complexity of their business mix, the growing importance of trading activities at some banks, the effect of technology advances, financial liberalization, and changing regulation. At the same time, banks are investing greater resources in the measurement of control and operational risk issues since under Basel II they will be required to hold regulatory capital against their operational risk.¹¹

Moody's uses a relatively broad definition for a bank's control infrastructure, including, but not limited to, audit, compliance, risk management, operations, and/or accounting systems. In assessing a bank's control environment, we consider the board and senior executives' awareness of key risks, the effectiveness of governing structures, the independence of risk functions, the risk control capacity relative to the bank's risk appetite, and the existence of past control issues or qualified audits.

Financial Reporting Transparency

The transparency of financial reporting is an important consideration in our analysis of the bank's strategy and risk position, as financial and operating data reported by banks form a starting point of our credit analysis. In addition, poor financial reporting often hides risks within a bank that may have a negative bearing on the bank's credit profile. We believe that reliable, transparent and timely financial information is consistent with banks with strong BFSRs.

The factors considered by Moody's in evaluating the bank's financial reporting transparency are:

- (a) Global Comparability of Reported Financial Information
- (b) Timeliness of Reporting
- (c) Quality of Financial Information Reported by Banks.

(a) Global Comparability. Financial information reported by banks needs to be globally comparable in order for us to be able to draw a meaningful comparison between the financial fundamentals of banks operating in different countries and to ensure that financial ratios calculated by Moody's are largely globally consistent. Moody's believes that financial reports are globally comparable when they are prepared under IFRS, US GAAP or substantially similar national accounting standards, and audited by a globally recognized accounting firm. Any significant deviations from this benchmark would likely result in a lower score on the financial reporting transparency element of our assessment.

(b) Timeliness. The timeliness of reporting by banks is very important, as unduly outdated financial reports lose their relevance. Management needs to balance the relative merits of timely reporting and the provision of reliable information. From our point of view, prompt dissemination of financial information on a quarterly basis within several weeks of a reporting date is a desirable reporting practice, although we accept that in some jurisdictions with strong banking systems (e.g. the UK, the Netherlands, Australia) banks report twice a year with extensive reporting in the interim and supplemented with quarterly trading updates. On the other hand, banks that are unduly late with their quarterly or annual reporting would not achieve a high overall rating for financial reporting transparency.

(c) Quality of Financial Information. The quality of financial information varies significantly between rated banks. We generally expect that banks should present their financial reports in a user-friendly manner, disclosing all the important information – such as loan granularity and concentration, level of non-performing loans (NPLs), NPL coverage by loan loss provisions, risk-weighted assets (RWAs), Tier 1 ratio, performance by business line, funding structure, use of derivatives for trading and hedging purposes and other key information. We also look for the management analysis in the MD&A (Management Discussion and Analysis) to provide a full insight into the business and financial perfor-

10. For the purpose of the BFSR, a director would not be considered independent if he or she: (1) is currently or was formerly an executive of the bank or its affiliates; (2) is or was formerly affiliated with a major shareholder; (3) is a family member of a past or current executive of the bank, its affiliates or a major shareholder; (4) is designated formally by a major shareholder; (5) has or had within the last five years a commercial relationship with the bank or its affiliates (this does not include lending relationships because these would be captured under related-party loans, when such loans are significant in the aggregate); or (6) receives or received within the last five years consulting or other fees from the bank or its affiliates, in addition to typical director compensation arrangements.

11. Operational Risk is defined for Basel II purposes as "the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. This definition includes legal risk but excludes strategic and reputation risk."

mance of the bank and to give a comprehensive and customized description of the level of risk carried by the bank in issuer-specific language (including exposures to credit risk, interest rate, FX risk, and also VaR and stress-testing information). In cases where we find that the quality of financial information is not as high as we would hope, or the information is lacking altogether, we factor any such deficiencies in financial reporting into our ratings. For example, if the bank does not disclose the level of its NPLs, RWAs or Tier 1 ratio, its performance on financial reporting transparency would be given a D or E for this sub-factor.

Credit Risk Concentration

Moody's believes that large credit concentrations within the lending, trading and investment portfolios increase the credit risk of a bank. Conversely, highly granular credit portfolios are leading indicators of better credit quality over the cycle. As with any concentration risk, we believe that large exposures to single obligors, industries, or regions are a potential source of earnings volatility. While credit cycles are inevitable, the greater the diversification of a bank's credit exposures, the lower the likely volatility and extent of its credit losses as a percentage of earnings or Tier 1 capital. Ultimately good diversification across economic sectors and geographic areas enables the bank to ride through business cycles without undue harm to asset quality.

The metrics that we use to measure credit risk concentration are:

- (a) Borrower Concentration
- (b) Industry Concentration

(a) Borrower Concentration. In order to assess the risks associated with a bank's largest exposures, we look at its top 20 customer or group exposures relative to Tier 1 capital and pre-tax-pre-provision income. Sometimes a bank may have a significant share of its credit exposure to only a few large borrowers, which heightens the risks associated with one or more of these borrowers running into financial problems.

(b) Industry Concentration. To assess industry concentrations, we look at a bank's aggregate exposures to a particular sector or industry relative to Tier 1 capital. Industry concentrations can also be a source of risk. Examples of risky industry concentrations include commercial real estate, shipping, or oil and gas. Industry concentration in this context refers to exposures to borrowers (or counterparties or investments) in specific industries or sectors of the economy. While some banks may also have product or business line concentrations, such as home mortgages or credit cards, we do not include those as industry concentrations. They are already factored in franchise value under earnings diversification. For example, a bank's exposure to the housing industry would certainly include its exposure to home builders and to construction, but would not include its exposure to owner-occupied residential mortgages.

Liquidity Management

Moody's believes that banks fail first and foremost because of illiquidity. When a bank runs out of money, it can no longer function. On the other hand, strong liquidity can help an otherwise weak institution to remain adequately funded during difficult times. Therefore, one of Moody's principal aims in bank analysis is to assess the institution's ability to finance itself under stress.

We regard liquidity risk as a function of the unique structure of a bank's assets and liabilities. Moody's analysis of bank liquidity risk management starts with an assessment of the degree to which a bank's illiquid assets (primarily loans) are funded by core liabilities that are stable (primarily customer deposits, long-term debt and equity). Banks with stable core funding in excess of their illiquid assets generally face low liquidity risk. Liquidity risk increases to the extent that illiquid assets are being funded by more confidence-sensitive funding sources such as short-term capital markets funding or interbank funding.

Access to market funding (including interbank deposits, commercial paper, bank notes and bonds, and derivatives) is not typically based on long-term relationships but rather on perceptions of creditworthiness: any adverse news or other information can put a bank at risk of abrupt "name resistance." Therefore, our analysis of a bank's liquidity management focuses on its available liquidity relative to near-term funding requirements in the event the bank's access to market funding is disrupted, and on the potential impact to the bank's business activity under such circumstances. We consider primary liquidity in the form of readily available and fully marketable liquid assets and well-established securitization and covered bond programs, and then sources of alternative liquidity, including committed stand-by facilities, potential additional sources of secured borrowing and available collateral. We also assess the rigor of a bank's contingency planning and liquidity stress testing, taking into account its funding profile and overall risk management – in particular with regard to liquidity risk arising from new and complex instruments.

Market Risk Appetite

In assessing a bank's market risk appetite, our starting premise is that the fundamental relationship between risk and expected return indicates that for a greater risk appetite, one expects on average to achieve a greater return. As the expected return increases, the volatility of the returns, and so the size of potential unexpected losses, increases. As the expected return decreases, the volatility of the returns, and so the size of potential unexpected losses, decreases.

Fixed income investors are concerned about unexpected events that could impair the value of their holdings by significantly damaging core earnings capacity, increasing earnings or cash-flow volatility or reducing capital. Therefore, the market risk appetite of an institution is a key element in assessing its financial strength.

Arguably, rigorous risk management practices enable management to choose a risk profile compatible with the firm's overall financial objectives and the credit rating it wishes to maintain. Moody's Risk Management Assessment initiative aims at assessing the relationship between an institution's risk appetite and its risk management capacity.¹² Because of the increased reliance of many large banking institutions on market-based (wholesale) resources, market risk equally permeates their liquidity and balance-sheet management practices.

Our focus in market risk is assessing the correlation between the trading activities of the bank and other sources of more stable and predictable revenues. Whenever trading losses have the potential to erode substantially a bank's earnings base, and also deplete its capital, the associated risks are much higher than for those banks where trading revenues represent a smaller portion of their earnings.

Summary of Factor Mapping – Risk Positioning

	D	E
Corporate Governance*		
Ownership and Organizational Complexity	Complex ownership structure, e.g. multiple minority ownership interests, consortium banks, cross-shareholdings, pyramid structures, or circular shareholdings OR > 50% ownership by an individual legal person (including the government) or family.	Complex or private ownership as described for D, AND either (i) a complex organizational structure (i.e. one that is hard for the board or outside observers to understand) OR (ii) family shareholders or government officials dominate management.
Key Man Risk	Lack of management depth (management dominated by one or two people at most, no apparent successor, lack of succession planning, etc. – e.g. a "one-man shop") OR dominance of a single generation within the ranks of senior management.	Lack of management depth AND dominance of a single generation within senior management.
Insider and Related-Party Risks	Total related-party loans between 25% and 40% of Tier 1 capital OR less than 25% of supervisory board is independent.	Total related-party loans > 40% of Tier 1 capital OR no one on the supervisory board is independent.
* If not a D or E, scoring on individual component is neutral and contributes neither positively nor negatively to the BFSR.		

	A	B	C	D	E
Controls	Very high awareness of key risks of the firm by the board and senior executives. High effectiveness of governing structures with empowered risk functions independent from business line management. Risk control capacity is appropriate to risk appetite. No control or governance issues in the last 5 yrs. No qualified audits in the last 5 yrs.	Very high awareness of key risks of the firm by the board and senior executives. High effectiveness of governing structures with empowered risk functions independent from business line management. Risk control capacity is appropriate to risk appetite. 1-2 minor control or governance issues in the last 5 yrs. No qualified audits in the last 5 yrs.	High awareness of key risks of the firm by the board and senior executives. Risk functions are independent from business line management. Risk control capacity may not be appropriate to the level of risk appetite. 1 major control or governance issue in the last 5 yrs.	Modest awareness of key risks of the firm by the board and senior executives. Risk functions may not be independent. Risk control capacity is inappropriate to the level of risk appetite. 1-2 major control or governance issues in the last 5 yrs, or any deliberate earnings misstatement in the last 5 yrs.	Poor awareness of key risks of the firm by the board and senior executives. No independent risk functions. Risk control capacity is inappropriate to the level of risk appetite. Weak controls with more than 2 major control or governance issues in the last 5 yrs, or any past fraud by current senior management.

12. Please see Moody's Rating Methodology "Risk Management Assessments," July 2004, and "Risk Disclosures of Banks and Securities Firms," Special Comment, May 2006.

	A	B	C	D	E
Financial Reporting Transparency					
Global Comparability	Consolidated financial statements prepared under IFRS/ US GAAP or GAAP that is substantially based on IFRS or US GAAP and audited by an independent, globally recognized accounting firm.	Consolidated financial statements prepared under IFRS/ US GAAP or GAAP that is substantially based on IFRS or US GAAP and audited by an independent, nationally recognized accounting firm.	Unconsolidated financial statements prepared under IFRS/ US GAAP or GAAP that is substantially based on IFRS or US GAAP and audited by an independent, globally or nationally recognized accounting firm.	Financial statements prepared under local GAAP and audited by an independent accounting firm.	Financial statements not audited by an independent accounting firm.
Timeliness	Quarterly reporting within 6 weeks after the reporting date.	Semi-annual reporting within 10 weeks after the reporting date, AND quarterly trading updates.	Semi-annual reporting within 10-14 weeks after the reporting date, AND quarterly trading updates.	Semi-annual reporting within 16 weeks after the reporting date, AND limited quarterly trading updates.	None of the above.
Quality of Financial Information	Financial statements are presented in a user-friendly manner, all important information is disclosed - such as loan granularity and concentration, level of NPLs, NPL coverage by provisions, RWAs, Tier 1 ratio, business line performance, funding structure, use of derivatives for trading and hedging purposes. Management analysis provides full insight into business and financial performance of the bank based on the economic substance and gives a comprehensive and customized description of the level of risk carried by the bank in issuer-specific language (incl. exposures to credit risk, interest rate, FX risk, and also VaR and stress testing information). All financial information is publicly available.	Financial statements are presented in a user-friendly manner, most important information is disclosed, although disclosure is not as full as for A. Management analysis provides full insight into business and financial performance of the bank based on the economic substance and gives a comprehensive and description of the level of risk carried by the bank in issuer-specific language (incl. exposures to credit risk, interest rate, FX risk, and also VaR and stress testing information). Extensive quantitative disclosures on credit and market risks. All financial information is publicly available.	Management analysis provides good insight into business and financial performance of the bank based on the economic substance and provides good understanding about the level of risk carried by the bank in customized, issuer-specific language. The quality of disclosures is not as good as for A and B categories, but the key disclosures are nevertheless available. All financial information is publicly available.	Adequate disclosures, although some information may be missing. Management analysis provides some insight into business and financial performance of the bank and provides adequate understanding about the level of risk carried by the bank, although in a boiler plate language and some disclosures (e.g. on market risk) may be deficient. Important financial information is publicly available. If any of NPLs, RWAs, or Tier 1 ratio is not disclosed, bank must be included in this category or the next lower one.	Limited disclosures, critical information may be missing. Limited or no discussion of business and financial performance of the bank. Boiler plate language is used to describe risks. Only limited financial information (key financial indicators) is publicly available.
Credit Risk Concentration					
Borrower Concentration*	Top 20 group exposures are < 50% of Tier-1 OR < 100% of pre-tax pre-provision income (PPI)	Top 20 group exposures are 50%-80% of Tier-1 OR 100%-200 of PPI	Top 20 group exposures are 80%-100% of Tier-1 OR 200%-350% of PPI	Top 20 group exposures are 100%-200% of Tier-1 OR 350%-750% of PPI	Top 20 group exposures are > 200% of Tier-1 OR > 750% of PPI
Industry Concentration	No single sector exposure is > 50% of Tier 1	No single sector exposure is 50%-200% of Tier-1	No single sector exposure is 200%-350% of Tier-1	No single sector exposure is 350%-500% of Tier-1	No single sector exposure is > 500% of Tier-1
*Based on the sum of the 20 largest group exposures. "Group exposure" includes the aggregate of all loans (outstandings plus undrawn commitments), investment or trading securities, counterparty exposures, etc. to related borrowers within a group or family. Includes sovereign, sub-sovereign, and other government-related exposures as well as private sector exposures.					

	A	B	C	D	E
Liquidity Management	Solid liquidity position, ready liquidity on balance sheet/or on stand by facilities with no delaying clauses as well as established securitization and/or covered bond programs. Liquidity should cover at least 12 months' non-access to capital markets, without sacrificing business growth. Also prudent liquidity contingency planning.	Solid liquidity position, ready liquidity on balance sheet/or on stand by facilities with no delaying clauses as well as established and/or covered bond programs. Could tolerate a modest reduction in business activities. Liquidity should cover at least 12 months' non-access to capital markets, with only a modest reduction in business activities. Also prudent liquidity contingency planning.	Good liquidity position, ready liquidity on balance sheet/or on stand by facilities with no delaying clauses. Sufficient eligible assets but not established securitization and /or covered bond programs. Could tolerate a modest reduction in business activity. Liquidity should cover at least 12 months' non-access to capital markets, with a modest reduction in business activity. Also prudent contingency planning.	Adequate liquidity position, ready liquidity on balance sheet/or on stand by facilities with no delaying clauses. Sufficient eligible assets but not established securitization and /or covered bond programs. Some disruption in business activity. Liquidity should cover at least 12 months' non-access to capital markets with potential timing gaps, and with some reduction in business activity. Less realistic contingency planning.	Institutions that do not qualify for previous categories.
Market Risk Appetite	< 10% of net income is at risk due to market risk events (e.g. unhedged FX or interest rate risk exposures, large trading positions)	10%-20% of net income is at risk due to market risk events (e.g. unhedged FX or interest rate risk exposures, large trading positions)	20%-30% of net income is at risk due to market risk events (e.g. unhedged FX or interest rate risk exposures, large trading positions)	30%-60% of net income is at risk due to market risk events (e.g. unhedged FX or interest rate risk exposures, large trading positions)	> 60% of net income is at risk due to market risk events (e.g. unhedged FX or interest rate risk exposures, large trading positions)

Measurement Challenges and Other Considerations

The assessment of Risk Positioning is strongly influenced by qualitative judgment and is closely aligned with and reflects management quality – which ultimately underpins corporate success or failure. Our assessment of management quality is a major factor in determining ratings.

Corporate Governance

Several factors within the governance assessment require careful consideration by the analyst. For example, what might be considered a complex organizational structure for one bank might be appropriate for another, given the latter's greater size and broader product and geographic diversity. Similarly, in assessing key man risk, determining the extent to which a bank is highly dependent on one or more executives can be difficult. The analyst's judgment and knowledge of the bank will be critical in scoring these governance factors. The insider issues (related-party loans and board independence) are, in contrast, more quantifiable in nature. However, for cooperative banks, there may be cases where it is more appropriate to assess the independence of the board of the central decision-making body instead of the board of each member of the cooperative. Similarly, for wholly owned banks, in some cases it may be more appropriate to assess the independence of the parent company board instead of the composition of the board of the subsidiary bank.

Although we have incorporated three red-flag issues into the methodology, there may be other corporate governance concerns which Moody's analysts will want to discuss during the rating committee process and which could affect the BFSR. Such factors could be excessively high short-term executive pay, or clear signs that the management team is not held to account by the board, regardless of the appearance of board independence. In such situations, it will be for the rating committee to determine the extent of these other governance concerns and the manner in which they will affect the BFSR, if at all.

Moody's assessment of bank corporate governance — as well as our assessment of the quality of the control environment — is set within our overall view of a bank's regulatory environment, as described below. Where the regulator has shown its willingness and ability to force banks to remedy governance or control failures in fast order, this acts as a strong mitigant to potential governance problems. Conversely, where the bank regulatory environment is relatively weak and unable or unwilling to force banks to fix problems quickly, our assessment of weak corporate governance will likely have more of an effect on the BFSR.

Controls

The assessment of controls depends on our current view of the quality of a bank's control and risk apparatus, and a historic perspective on the robustness of the controls over the last five years. In reviewing the risk processes and procedures, we determine the extent to which the board and management are aware of the key risks facing the bank and evaluate how well the controls and risk management processes facilitate the measurement, monitoring and, where possible, mitigation of these risks. Our view on the degree to which risk professionals are independent of risk-takers and are willing and able to stand up to key business line executives is also important.

Our five-year look-back period encompasses an assessment of the bank's past governance, control and regulatory missteps, if any. Moody's analysts will evaluate any control or governance failures over the past five years to determine which score to assign to each bank. It is difficult to define precisely what constitutes a minor or major control failure, because each control problem has to be assessed case-by-case. In general, we define a major control issue as a breakdown in audit, compliance, risk management, operations, and/or accounting that results in either regulatory sanctions or penalties, economic losses, sizable litigation exposures, or reputational damage. A major governance issue typically includes a major control issue, as well as significant problems in corporate culture, board oversight and/or executive misbehavior. Minor control issues more commonly result in no economic losses, may involve regulatory agreements seeking corrections (but no sanctions), and cause little or no reputational damage.

Key considerations in determining the severity of such problems and how these will affect the assessment of controls and governance framework within the BFSR will be the:

- Extent to which regulatory action (or inaction) will help (or hinder) control remediation and prevent a future recurrence
- Severity of subsequent regulatory action(s) and/or legal settlement(s)
- Degree to which top management was involved in the problems and the extent of top executive turnover, if any
- Specific nature of the problem (i.e. where the problem is focused in one area, Moody's would typically view it as being less serious, all other things being equal; the broader the problem, the more likely we would be to consider it a major control failure)
- Potential for significant reputation damage.

We allow banks some latitude for past or future control or governance failures; that is, one such failure does not automatically mean the bank is assigned an E for controls. As noted in the detailed factor mapping above, scores C and D allow for past control or governance failures, even when these are considered "major" by Moody's. However, when a control or governance failure is considered sufficiently broad and severe and the problems include top management, the bank may be assigned an E immediately, even when there have been no other control or governance failures in the last five years and when we previously viewed the risk management approach to be robust.

Financial Reporting Transparency

When assessing transparency, we look at the extent of disclosure about a bank's operations and the environment in which it operates, and the reliability of that disclosure. We believe that quality of disclosure is more important than quantity. We see banks with annual reports of over 200 pages with extensive footnotes that do not provide any information about asset quality. Even when some information about asset quality is available, it may be lacking any explanation as to how it is measured or what fundamental factors are driving asset quality performance.

We also attach particular importance to the quality of public disclosure as opposed to information submitted in confidence to rating agencies or other banks. Publicly disclosed information is subject to public scrutiny and debate and therefore may be more accurate. Better public disclosure can also facilitate market discipline, preventing a bank's managers from excessive risk-taking.

Credit Risk Concentration

Most banks provide a basic breakdown of their loan portfolios by industry and many also provide a geographic breakdown. However, we often find that the published industry breakdowns are fairly broad. For example, some banks may only report their total real estate concentration, which can include residential mortgages, undeveloped land, property investment, and commercial property, among others. Many banks may also report a catch-all category of "Other," which in some cases can be relatively large (over 10% of loans) and where little or no additional breakdown is given. In these cases, we ask for additional detail about the industry concentrations at a more granular level.

Bank disclosures on borrower concentrations vary widely. We believe this is a critical component of bank credit analysis, and where public disclosure is lacking we ask for additional detail. Given the confidential nature of this information, there may be circumstances where we are unable to publish our assessment of this sub-factor. Nonetheless, even where not published, it remains an important component of our overall assessment of a bank's risk positioning and its BFSR.

Definition-related issues abound, making comparisons among banks and systems difficult. There is not a single definition of "exposure" and we find that banks are often challenged to aggregate their risk exposure across all forms of credit, market, and off-balance sheet exposures. Furthermore, in some economies where private sector activity may be dominated by a few powerful families, the number of companies to lend to may be large, but they may all be ultimately connected to the same shareholders who transfer money from one part of the network to another as the need arises. Such concentrations may not show up in statistics presented by the bank. They may be visible only to an analyst who has a sound knowledge of the corporate market.

We take a cautious approach to the use of collateral in safeguarding a bank's solvency. This is because in many systems, collateral can be hard to seize due to imperfections or delays in the legal system. Questions may also arise about the realizable value of collateral (as opposed to the value at which it is booked). Furthermore, a dependence on collateral is often a substitute for credit analysis: loans should be extended on the basis of the borrower's ability to repay and not on the bank's ability to attach collateral. For all of these reasons, our analysis focuses on total exposures, and rarely includes any offset for collateral.

Liquidity Management

Moody's assessment of a bank's liquidity management is based on a mixture of quantitative and qualitative factors. Our point of departure is the bank's primary sources and uses of funds, grouped within defined time bands. We also assess the mix between domestic and cross-border funding, and between personal and corporate deposits.

Our assessment of primary liquidity is broadly defined and one that is left to analyst judgment, in order to allow for differences in the liquidity of balance-sheet assets due to factors including the nature of the assets and the development of local capital markets.

We have a positive bias towards domestic retail deposits as the primary source of deposits but are cautious about the presence of particularly large deposits whose withdrawal could cause the bank a problem. A state-owned bank may have access to large deposits from government organizations but may lose them post-privatization. Large deposits from private sector companies or the bank's major shareholders could present a danger if the companies or shareholders run into difficulties.

We also have a positive bias towards domestic sources of funding as short-term cross-border funds can be quickly withdrawn if international sentiment about a country undergoes a change – irrespective of whether such withdrawals are based on informed sentiment. Similarly, we look for a level of medium- and long-term debt since it gives a bank some stable funding with which to match long-term assets. The only qualification concerns a bank's ability to refinance debt issues: not being able to roll over a "chunky" piece of term debt can put enormous strain on liquidity, especially in times of market turbulence.

At one level, assessment of liquidity is simple since most banks give some form of disclosure on the trading status and contractual maturities of assets. But at another level, it is much more difficult to predict whether assets could in fact be liquidated, or pledged against new secured borrowings at reasonable haircuts, in a severely disrupted market. This is particularly true of quoted stocks in developing markets – if prices head downwards on a thinly traded exchange, it can be impossible to sell even a medium-size tranche of shares. If a bank has a large portfolio of local shares and locally issued corporate bonds on its balance sheet, questions should be raised as to whether these are really "liquid" assets, even if they are quoted.

Banks with higher liquidity risk – i.e. those that are wholesale-funded or run-prone – need more thorough contingency plans. For example, our experience is that most Hong Kong bank managers are well-versed in what they have to do in the event of a run – e.g. organize armored car shipments to branches, help keep desperate depositors in orderly queues, call the regulator.

We have no prescribed formula for how best to provide alternate liquidity. This is a rather subjective judgment based on various factors, both fundamental (the bank's credit worth, the stability of its funding, its franchise and reputation) and more technical (amount and diversity of asset liquidity and credit lines from other banks – unadvised, advised, or committed). A bank's ability to securitize new asset classes or use them to obtain secured funding is important, but may take some time if the bank has not done so previously and does not have a program already in place. Selling assets would be considered a viable source of alternative liquidity only if the sales involved non-strategic assets and were unlikely to permanently harm a bank's franchise value or earnings coverage.

The value of credit lines from other banks is always a controversial topic. In general we believe the best and safest are committed lines earmarked for a specific issuance program (e.g. commercial paper, deposit notes) provided by a highly rated bank for a longer period of time and with no material adverse change (MAC) clauses.¹³ But even if such lines are available, we must also assess whether they would be used. Management might want to avoid at all costs the negative signaling effect that could result from drawing upon a syndicated backup line if it could jeopardize the bank's other sources of funding.

Market Risk Appetite

Moody's overall opinion is that the current public risk disclosures of banks and securities firms fail to inform on the full scope and nature of risk exposures and risk mitigation efforts of these entities. In particular:

- Disclosures tend to be limited to measures, such as Value-at-Risk (VaR), that give an incomplete picture of risk and use mostly boilerplate language (for example, explaining in very general terms what market risk is).
- Contextual and qualitative elements necessary for an understanding of the real magnitude of exposures and risks typically lack depth.
- There is no standardized format among the firms that we have surveyed: risk disclosures are uneven in size and quality, and they are scattered across annual reports.
- Finally, risk disclosures basically lack the minimum reliability requirements for relevant and consistent comparisons across firms.

However, some firms have been able to distinguish themselves in specific areas of disclosures. Put together, these firms' "best practices" point the way towards a better risk-disclosure framework.¹⁴ We advocate further disclosures on the nature of stress tests and the results of the stress tests, especially with regard to extreme "tail events."

Another analytical issue is that banks do not have to have active trading activities to be exposed to market risk. The greatest risks to the solvency of many banks dealing in more volatile operating environments are simple ones such as liquidity management, losses on marked-to-market securities, and foreign exchange dealing, or unforeseeable event risks that are not captured in VaR measures but rather require management to run stress scenarios of their positions. Estimating potential risk over the next six months through reference to what happened during the last six months is less valid in such volatile operating environments than it is in more stable and deep financial systems. And when disclosure is poor (see above), it is difficult to estimate the extent of a bank's exposure to asset/liability risks.

Rating Factor 3: Regulatory Environment

Why It Matters

Regulation and supervision are important considerations in Moody's analysis of banks globally as they provide a basis for the assessment of systemic issues that may affect bank solvency. We believe that the existence of independent regulatory bodies with credible and demonstrated enforcement powers and with adherence to global standards of best practices for the control of risk is consistent with strong BFSRs.

Banks with strong BFSRs also tend to benefit from a well-established and deep supervisory framework behind them, including banking regulators and central banks that manage monetary policy and that support system stability. Such frameworks tend to have good professional staff and resources that regularly monitor both system performance and the franchise and financial development of the banks within their purview.

Another key factor in our evaluation of banking regulators is a strong commitment to transparency in financial reporting and with regard to shareholding structures, supported by a healthy dialogue with the private sector on topics of prudential regulation.

The regulatory part of the BFSR methodology also evaluates both the supervisors' standards and their commitment to reflecting the banking system's economic value, particularly with respect to capital adequacy, asset quality, and liquidity, which we believe allows for a more thorough and fair analysis of banks' financial performance.

The sub-factors we consider when evaluating a bank's regulatory environment include the following:

1. Licensing
2. Capital Regulation
3. Other Prudential Regulations
4. Supervision
5. Independence and Enforcement

13. For more on the topic of Alternate Liquidity, please see Moody's Rating Methodologies: "Moody's Approach to Assessing the Adequacy of Liquidity Risk Insurance," January 2000; "Alternate Liquidity for Banks' Commercial Paper," October 2000; and "How Moody's Evaluates US Bank & Bank Holding Company Liquidity," July 2001.

14. For more on this topic, please see Moody's Special Comment, "Risk Disclosures of Banks and Securities Firms" (May 2006).

Licensing

This essentially refers to qualitative factors concerning the barriers of entry to the industry. It addresses the commitment and capability of regulators to manage the solvency of the banking system. In the absence of any barriers to entry, an entire banking system can destabilize rapidly. Even the strongest banks in such a system can be affected by this.

The following components are included in our assessment of Licensing:

- (a) Minimum capital requirements to establish a bank
- (b) Shareholder origin
- (c) Shareholder acceptance, i.e. the conditions for which shareholders are evaluated and approved by the regulators.

(a) Minimum legal capital requirement to establish a bank or to obtain specific types of banking licenses – such a requirement helps to ensure a minimum solvency level for banks across the system and hence would minimize systemic risk. The existence of any minimum requirement at all is a positive, but it is also important that the requirement be meaningful in the context of the size and wealth of the economy. If the minimum amount required is easy for owners to raise, it is unlikely to pose much of a barrier to entry.

(b) The origin of that capital, whether domestic or foreign, and the quality of supervision of the home countries in the case of foreign owners, are key to the evaluation of cross-border risks as well as of the existence of potential official support mechanisms.

(c) Acceptance of shareholders. Finally, we assess the extent to which regulators know all major shareholders or beneficial owners, particularly with respect to their professional and financial wherewithal and their willingness to support their banks in case of financial distress. Regulations requiring public disclosure of ownership are important as well. If supervisors know this information, and it is disclosed publicly, this would be considered Excellent -- but if it is not disclosed publicly, the score would likely be Satisfactory (see mapping table below).

Capital Regulation

This section focuses on the prudential regulations and quantitative methods used by the regulators to control and manage capital adequacy. Capital adequacy and how it is measured is obviously an important component of the BFSR. Here again we note that efforts towards maximum transparency of financial information are valued highly by Moody's. For capital regulations, the following three sub-factors are considered:

- (a) Underlying accounting methods
- (b) Methods of calculating capital adequacy
- (c) Implementation of Basel Accords

(a) Underlying accounting methods. We consider whether a bank uses internationally recognized accounting standards, such as US GAAP, IFRS, or those that may also be accepted as reflecting the true economic reality more or less in line with US GAAP or IFRS. Such methods could be characterized as Excellent, while less well recognized accounting methods might be rated either Satisfactory or Unsatisfactory, depending on the analysts' assessment of their transparency and consistency.¹⁵

(b) Methods of calculating capital adequacy are also assessed as to whether they reveal economic substance, rather than just reporting superficial numbers. High and persistent regulatory or accounting forbearances and/or creative accounting methods that may distort the calculation of capital or non-performing loans and reduce required reserves would likely result in a score of Unsatisfactory.

(c) Implementation of Basel Accords. Finally, we also assess from a qualitative standpoint how much and how well supervisors promote Basel guidelines as a strong indicator of their commitment to guide the banks towards prudent and homogeneous standards. The Basel Accords also serve as a common language to help minimize counterparty and contagion risks in both domestic and global markets.

¹⁵ Please see *Financial Reporting Transparency under Rating Factor 2*.

Other Prudential Regulations

This section focuses on the prudential regulations and quantitative methods used by the regulators to control and manage other financial performance metrics of banks, particularly asset quality, liquidity, and intercompany and related-party transactions. Prudential regulations are designed to give the banks guidance on how to manage their credit, market and operational risks and effectively create a common language and practice among them.

The assessment of other prudential regulations focuses on three sub-factors:

- (a) Asset quality guidelines
- (b) Liquidity requirements
- (c) Inter-company and related-party transactions

(a) The existence and effectiveness of asset quality guidelines. This sub-factor considers the regulatory requirements for problem loan recognition, non-performing loan definitions, and risk-based provisioning and asset write-offs that would shield earnings and hence capital against potential loss.

(b) The existence and effectiveness of liquidity requirements in both local and foreign currency. Such requirements provide a safety net in the event of a liquidity crunch set off by a sharp increase in deposit withdrawals. The effectiveness of liquidity requirements is viewed both in the sovereign context (e.g. risk of a liquidity crisis and/or risk that sovereign will expropriate) and in light of the level and depth of local market liquidity. The requirements are also assessed based on their composition and quality (e.g. cash versus government or other type of securities) and their adequacy with regard to confidence sensitivity and the existence of a discount window or other form of official liquidity support.

(c) The effective regulation of inter-company and related-party transactions. This sub-factor focuses on the extent to which there are regulations or limits, and how effectively they are enforced, on inter-company and related-party transactions. The importance of such limits, and the risks inherent in such transactions, is discussed in greater detail in both the Corporate Governance and Controls sub-factors of the Risk Positioning section of this methodology.

In all cases we consider the level of consistency of prudential regulations with international practice and/or reliable local norms, especially when looking at rules governing asset quality management and related-party lending.

Supervision

This category addresses the quality of on- and off-site supervision, as well as the level of professionalism, sophistication and overall quality of staffing at the supervisory authorities. The sub-factors include:

- (a) Quality of on-site supervision
- (b) Quality of off-site supervision
- (c) Adequacy and quality of staffing at the supervisory authorities

(a) On-site supervision. The frequency and thoroughness of on-site inspections are considered, together with the practice of making thematic inspections – such as a review of commercial real estate, hedge fund exposure or exposures to selected industries such as the automotive industry – that enable supervisors to better assess specific risks.

(b) Off-site supervision. Our analysis of the effectiveness of off-site supervision is based on the existence and sophistication of operational frameworks such as (a) early warning systems to avert systemic crisis or contagion among banks, and (b) loan portfolio reviews aimed at assessing banks' credit exposures on the basis of ratings, data from credit bureaus and in-house databases.

Any failure by system examiners during the past five years to identify and redress or penalize a solvency-threatening problem or multi-year fraud would likely result in a score of Unsatisfactory.

(c) Quality of staffing. The quality of staffing at the supervisory authorities is important for obvious reasons; if they are not qualified, how meaningful or forceful is the regulation? We look to the professional acumen of the regulators, as well as the depth and track record of the regulatory body.

Independence and Enforcement

The sub-factors include:

- (a) The extent to which supervisors are free from political influences
- (b) The extent to which supervisors are free from industry influences
- (c) The track record of corrective measures imposed on the banks as a result of inspections.

We are concerned with the extent to which supervisory authorities are free from political or industry influences, as this can be indicative of the strength and reliability of their enforcement powers. In addition, as the authorities typically comprise official or governmental institutions, there is always the potential for government interference or a breakdown in the supervisory framework if a country is in financial distress.

Summary Table of Factor Mapping – Regulatory Environment

	A	B	C	D	E
Licensing*					
Minimum capital: Is there a minimum legal capital requirement for newly chartered banks, and if there is, how meaningful is it and does it serve as an effective barrier to entry and a means to minimize systemic risk?	3 Excellent	2 Excellent 1 Satisfactory	1 Excellent 2 Satisfactory OR 3 Satisfactory	1 Unsatisfactory OR 1 Excellent 2 Unsatisfactory	1 Satisfactory 2 Unsatisfactory OR 3 Unsatisfactory
Origin: Non-discrimination between application from nationals and foreign entities but thorough review of applications from banks which are headquartered in countries with low level of banking supervision.					
Shareholders: Supervisors know all major shareholders/beneficial owners, know their other businesses and related parties, have ensured they have the financial means and willingness (e.g. request for letters of comfort) to inject additional capital to support growth and in case of financial distress, know that their investment is based on sound economic rationale, and that at least a portion of the shareholders have a clear understanding of banking business. (Regulation requiring public disclosure of beneficial ownership is a prerequisite for a score of "Excellent." If supervisors know this information but it is not disclosed, score as "Satisfactory.")					
Capital Regulation*					
Underlying accounting methods: They are internationally recognized (IFRS or GAAP) or are known as qualitatively reflecting at least the true economic reality as IFRS or GAAP. Quality of application of accounting principles by banks and external auditors.	3 Excellent	2 Excellent 1 Satisfactory	1 Excellent 2 Satisfactory OR 3 Satisfactory	1 Unsatisfactory OR 1 Excellent 2 Unsatisfactory	1 Satisfactory 2 Unsatisfactory OR 3 Unsatisfactory
Calculation methods: Level of CAR determined based on substance rather than on a purely formal basis (i.e. numbers not materially distorted by regulatory forbearance or creative accounting).					
Implementation of Basel methods: How much and how well supervisors promote implementation of Basel guidelines.					
Other Regulation*					
Existence and effectiveness of asset quality ratios (i.e. strict NPL definition and provisioning requirements).	3 Excellent	2 Excellent 1 Satisfactory	1 Excellent 2 Satisfactory OR 3 Satisfactory	1 Unsatisfactory OR 1 Excellent 2 Unsatisfactory	1 Satisfactory 2 Unsatisfactory OR 3 Unsatisfactory
Effective liquidity requirements.					
Effective regulation on inter-company and related-party transactions.					

	A	B	C	D	E
Supervision*					
Quality of off-site supervision: Existence and sophistication levels of systems including (a) Early Warning Systems (EWS) enabling to prevent any systemic crisis or domino effect among banks, and b) Loans Portfolio Reviews aimed at assessing banks' credit exposures on the basis of ratings, data from credit bureaus or in-house databases. Any failure by system examiners over the past 5 years to identify and redress/penalize a solvency-threatening problem or multi-year fraud should result in a score of "Unsatisfactory."	3 Excellent	2 Excellent 1 Satisfactory	1 Excellent 2 Satisfactory OR 3 Satisfactory	1 Unsatisfactory OR 1 Excellent 2 Unsatisfactory	1 Satisfactory 2 Unsatisfactory OR 3 Unsatisfactory
Quality of on-site supervision: Frequency and thoroughness of inspections as well as thematic inspections that enable supervisors to better assess specific risks.					
Staffing Quality: Extent of skills, level and adequacy of staffing number.					
	A	B	C	D	E
Independence*					
Extent to which supervisory authorities are free from political influences.	3 Excellent	2 Excellent 1 Satisfactory	1 Excellent 2 Satisfactory OR 3 Satisfactory	1 Unsatisfactory OR 1 Excellent 2 Unsatisfactory	1 Satisfactory 2 Unsatisfactory OR 3 Unsatisfactory
Extent to which supervisory authorities are free from industry influences.					
Track record of imposed corrective measures as a result of inspections. Any incidence of a major breach over the past 5 years that was not met with an equally major enforcement action should result in a score of "unsatisfactory."					
*Each of the three sub-factors is scored as Excellent, Satisfactory or Unsatisfactory.					

Measurement Challenges and Other Considerations

While banking laws and regulations allow us to understand the local benchmarks under which banks in a given system operate, we also need to look behind such standards for common practices in order to assess the true efficacy of the regulator. For example, some regulators have extensive published rules that may look good on paper, but they may not follow them or enforce them. Others may work behind the scenes through unwritten guidance and moral suasion, but are very effective. There are also banking systems with newly minted laws that may include the latest Basel norms, but in practice are not yet compliant, simply because they are so new, and the banks and their regulators require time to adjust to the new framework.

With respect to financial reporting, a system may require very detailed information but take a lot of time to disclose the information to the market. In some systems, there is a double standard for reporting the financials (or not) of government-owned entities in terms of detail or timeliness versus that which is required of private sector banks in the same system. (Often this reflects the stricter public reporting standards of the local stock market.) Lack of transparency in the legal system may also make it difficult to assess the true merits and weaknesses of a given regulatory framework.

It is important to note that regulatory rating factors – both qualitative and quantitative – also have a country risk context and therefore issues such as the *rule of law* that may affect the enforceability of regulations are also considered in evaluating the quality of banking regulation.

In addition, in some countries there may be different banking regulators for banks with different banking charters. These different regulators may be of varying quality, leading to different regulatory environments for different banks within the same country.

Licensing

It may be challenging to identify the extent to which minimum capital requirements for newly licensed banks are meaningful. Analysts may consider the number of new licenses issued annually, as well as the impact that de novo banking has on the banking system, in determining the extent to which licensing requirements serve as a meaningful barrier to entry. Inadequate information regarding shareholders or complex ownership and control structures can make it difficult for regulators to effectively supervise banks or control risk taking within a banking system.¹⁶

16. Please see discussion on Corporate Governance under Rating Factor 2.

Capital Regulation and Other Prudential Regulations

Measurement challenges for the assessment of capital adequacy include: (a) lack of available data on risk-weighted assets and/or BIS ratios from every country and (b) the need to adjust capital for (i) inflation or (ii) the mark-to-market of securities in cases where these accounting adjustments do not exist.

One may also need to adjust asset quality requirements to make them comparable, as in cases where non-performing loans are defined with maturities other than the market standard or where collateral other than cash is netted against loan principal for the purpose of calculating provisioning requirements.

Supervision

Regular meetings with regulators are part and parcel of our due diligence of banking systems worldwide. While analysts may be able to examine the professional background and depth of the supervisory framework, they will typically be most comfortable in making specific assessments of the actions of the supervisors and their results over time.

Independence and Enforcement

While a supervisor's track record in imposing corrective measures offers concrete examples of its effectiveness, this needs to be a dynamic analysis based on evolving market and political conditions, as appropriate.

Rating Factor 4: Operating Environment

Why It Matters

A bank's performance is frequently constrained by its operating environment and, where conditions are particularly difficult, banks could often be said to be the victims of their environments. Violent economic cycles, business-damaging political decisions, weak legal systems and irrational competitive environments can all act singly or in combination to impair a bank's creditworthiness. While many factors contribute to making some countries easier places in which to do business and others more difficult, Moody's believes the key drivers are the economic volatility, the efficiency of the legal system, the effectiveness of social and political institutions, and the competition dynamics and industry structure of the banking system.

Our initial analysis of the operating environment focuses on three different measures, all of which can be quantified. We have chosen these measures as the best way to capture the broad differences in various operating environments. In practice, Moody's assesses the operating environment of each country at least once a year. That assessment will apply to all banks operating in that system. The operating environment measures are:

1. Economic Stability
2. Integrity and Corruption
3. Legal System

Economic Stability

Large drops in economic growth are highly correlated with worsening asset quality and earnings. Therefore, all other things being equal, countries with more volatile economic cycles are riskier places in which to do business.

Economic cycles in highly industrialized economies are gentle, with their GDP growth rates moving up or down by only 1-2 percentage points in two-thirds of the past 20 years. Developing economies exhibit more violent economic cycles, with their GDP growth rate standard deviation ranging from 7-12 percentage points to, occasionally, more than 100 percentage points. We assign each country an Economic Volatility Score based on the standard deviation of its nominal local currency GDP growth rates.

Integrity and Corruption

Corruption can make an operating environment unpredictable and costly. When severe, it can render its institutions and even infrastructure dysfunctional.

Corruption in the economy constitutes a problem for a bank, even when its internal operations are themselves free of corruption. At the macroeconomic level, corruption results in a misallocation of resources, thus limiting economic growth. At the microeconomic level, corruption can taint accounting and other information on which credit decisions are made. Furthermore, government and private sector services may be forthcoming only when service providers are paid off. This adds to the cost of doing business and can put the bank on the wrong side of the law, even if those laws are seldom enforced.

Because they handle large sums of money, banks everywhere are subject to various forms of malfeasance. However, where corruption is prevalent in society, normal bank control mechanisms are likely to prove insufficient to prevent theft and fraud, particularly in the face of collusion, fear or indifference. These crimes can be costly in terms of both bank money and reputation.

It is difficult to accurately assess levels of corruption in different countries based on hard data. Therefore, we have chosen to use Transparency International’s Corruption Perceptions Index (TI CPI), which ranks countries in terms of the degree to which corruption is perceived to exist among public officials and politicians. We assign each country an Integrity and Corruption Score based on the TI CPI.¹⁷

Legal System

A well-established and enforced system of contract law facilitates the day-to-day operations of banks. The vast majority of bank business is based on contracts; loan agreements, foreign-exchange forwards, guarantees, collateral pledges, and derivatives are contracts. Most of a bank’s risk management and risk mitigation tools rely on the predictable and preferably fair functioning of the legal system. The time value of money also puts a premium on the swift functioning of the legal system.

Because it is important to banks that the legal system be predictable, fair and swift, we have chosen to score each country’s legal system according to the typical time it takes a bank to foreclose on a residential mortgage. In our experience, this time period can be less than a year in countries with efficient bank-friendly courts and a strong rule of law. However, where courts are inefficient, corrupt or sometimes just very protective of individuals, it can take five to ten years for a bank to be awarded vacant possession of a residential property, which can lead to a significant deterioration in the value of collateral for the bank.

Summary of Factor Mapping – Operating Environment

	A	B	C	D	E
Economic Stability	Standard deviation of GDP growth <2.3	Standard deviation of GDP growth 2.3-4.0	Standard deviation of GDP growth 4.0-7.0	Standard deviation of GDP growth 7.0-12.0	Standard deviation of GDP growth >12.0
Integrity and Corruption	TI CPI > or = 8.6	TI CPI between 7.0-8.5	TI CPI between 5.8-6.9	TI CPI between 3.6-5.7	TI CPI < or = 3.5
Legal System	Length of foreclosure on residential real estate < 1 yr	Length of foreclosure on residential real estate 1-2 yrs	Length of foreclosure on residential real estate 2-3 yrs	Length of foreclosure on residential real estate 3-5 yrs	Length of foreclosure on residential real estate > 5 yrs

Measurement Challenges and Other Considerations

Other factors which mitigate or exacerbate the overall operating environment should be considered by the analyst and may require adjustments to the BFSR predicted by the scorecard. However, we have a strong preference to use these quantitative measures with little or no adjustment.

Nevertheless, Moody’s will consider adjustments for data deficiencies when assessing each country’s score. The rating committee may consider cases when the selected measures fail to capture the risk being considered. For example, in a given country, residential mortgages may be easily foreclosed, but other collateral or contracts may be nearly impossible – rather than simply more time-consuming – to settle in the courts. Trends in the statistics over time will also be considered to avoid being unduly backward-looking, particularly when a country’s statistics place it on (or very near) the cusp of the next higher or lower score.

The factors that we have chosen to measure operating environment are best measured on a country by country basis. For banks that have substantial operations in more than one country, we will use a weighted average of the operating environment score of each country in which the bank operates, with the weights based on both the earnings and asset contributions of the countries in question to the bank’s overall profits and assets.

As noted at the outset of this section, the competitive structure of the banking system is also an important element to be considered when evaluating the impact of the operating environment on a bank’s risk profile. However, we have not explicitly incorporated this element into the Operating Environment section of the scorecard. Moody’s believes that most of these competitive issues will manifest themselves in a bank’s profitability ratios or various Franchise Value measures. To the extent that they do not, analysts may propose to incorporate them here.

17. The TI CPI is a composite index drawing on corruption related data in expert surveys carried out by a variety of institutions. It reflects the views of business people and analysts from around the world, including experts who are locals in the countries evaluated. The 2005 TI CPI, together with details on the TI CPI methodology, are publicly available at http://www.transparency.org/policy_research/surveys_indices/cpi/2005 or at http://www.icgg.org/corruption/cpi_2005.html.

Economic Stability

Our assessment of economic stability focuses on the standard deviation of annual nominal GDP growth over the last 20 years. This measure, although updated annually, uses 20 years of data and therefore its use assumes that future volatility will be similar to past volatility. Many countries in which Moody's rates banks have roughly halved their economic volatility (according to this measure) relative to levels recorded in the previous 20 year period. However, a minority of nations have experienced significant increases in economic volatility. Moody's rating committee will take these positive and negative trends into consideration.

Other countries have only existed for a few years. The rating committee will consider how to adjust for the distorting effects of data streams that do not cover a full economic cycle. Factors that will be considered include: historic data that could be substituted for the missing years, statistics for countries nearby, or with similarly based economies, or at similar levels of economic development.

GDP data reporting can lag by years. Moody's will use consensus estimates for those countries lacking data for more recent years, pending publication of actual results.

Integrity and Corruption

Our mapping of TI CPI values was based on the views of a team of our most experienced senior analysts, but is still, of necessity, somewhat arbitrary. As such, the rating committees will consider the effect, if any, on a bank's BFSR if it operates in a country that falls near cut-off points in the adjacent category.

The TI CPI is a composite index – i.e. a collection of perceptions – and as such is only an indirect measure of reality. However, we believe the TI CPI is one of the more analytically rigorous broad measures of corruption available. Furthermore, like the other measures used in judging the Operating Environment, it has the benefit of being independent of our own expectations.

Legal System

We have chosen the speed with which a defaulted residential mortgage can be foreclosed as a useful measure of the effective functioning of the legal system. Because Moody's bank analysts gather the time-to-foreclosure data from banks and regulators, it may be distorted by the recollections of the data providers. Residential mortgages have the benefit of being a large granular class of secured assets, which make them a good statistical base.

We do not assume that the typical time-to-foreclosure on a residential mortgage is the same as the time required to resolve a corporate bankruptcy. However, we do believe that this measure provides a good relative comparison of the reliability and speed with which a country's courts settle disputes relative to other countries. Where the analyst believes this may, in fact, not be the case, the timing of a different court process may be substituted, with the rating committee's concurrence.

Rating Factor 5: Financial Fundamentals

Why It Matters

Financial fundamentals are a relatively easy way to compare banks' performance. Banks should be simple to compare globally, because they generally have two main businesses: borrowing money and lending money. They are regulated institutions and there are thousands of them around the world. The use of financial metrics helps to verify or falsify performance assumptions that were based on past trends. These following sub-factors are all components of the classical CAMEL approach to bank credit analysis, and are certainly not groundbreaking at Moody's.¹⁸

We break down our analysis of a bank's financial fundamentals into the following sub-factors:

1. Profitability
2. Liquidity
3. Capital Adequacy
4. Efficiency
5. Asset Quality.

¹⁸ CAMEL stands for Capital, Asset quality, Earnings, Management, and Liquidity

Profitability

Earnings power is a key determinant of the long-term success or failure of a financial institution. It measures the ability of a bank to create economic value and, by adding to its storehouse of resources, to preserve or improve risk protection for creditors. Moody's believes that core or recurring profitability is a bank's first line of defense to absorb credit-related losses and losses stemming from market, operational and business risk. However, the absolute level of earnings needs to be measured for volatility. In our ratios, we are looking to capture coverage for creditors while measuring earnings performance relative to balance sheet and other risks. At the same time, we are cognizant that bank managers may be keenly concerned with shareholders' needs. To the extent that measures such as return on equity or EPS growth drive management's strategies, we will look at them to gauge what pressures management may be facing.

As we indicated earlier in this methodology, there are many qualitative factors that address earnings from the point of view of both volatility and diversification. The selected profitability ratios, however, measure consolidated performance on a historical basis.

Liquidity

Illiquidity is almost always a proximate cause of bank failure, while strong liquidity helps an otherwise weak institution to remain adequately funded during difficult times. One of Moody's principal aims in bank analysis is to assess the institution's ability to finance itself under stress. This is an especially sensitive element, because access to market funding (interbank, fixed-income securities, derivatives) may not be based on long-term relationships, but can be based on perceptions of creditworthiness. Consequently, adverse news or other information can cause funding interruptions.

Capital Adequacy

Compared to most other industries, banks are highly leveraged entities. Yet, as with other industries, capital is a carefully managed tool for banks. Managers must address the needs of many constituents – not the least of which are shareholders. We believe these needs must be balanced against the interests of regulators and creditors.

Banks typically fail because of losses in the loan portfolio, poor business models, or fraud. These factors ultimately lead to a decline in capital, but capital inadequacy cannot truly be considered the cause of bank failure. As we have said many times, capital is important, but it is not a leading indicator of credit health, and therefore only rarely drives ratings. In fact, historically, capital ratios have been inversely correlated to ratings – with highly rated banks being more leveraged than lower rated banks. This is because we believe that the benefits of an extensive franchise, a diversified business mix, strong risk management, and stable, predictable earnings more than offset weak capital ratios. That said, we do consider the current and expected level of capital in determining ratings.

As highly regulated entities, banks are required to meet minimum standards. Exceeding regulatory capital requirements allows favorable access to capital markets and may, perhaps, facilitate obtaining regulatory approvals for strategic initiatives. Ample capital also provides management with financial flexibility to take advantage of opportunistic acquisitions, divestitures and discontinuation of businesses including associated write-downs.

The discussion of capital does become a more prominent factor at acquisition time. This is so because institutions are likely to employ leverage to finance transactions. Oftentimes the cash portion is funded with debt or something other than pure equity. Capital also becomes more prominent when a bank is otherwise in weak financial condition. When earnings are absent, capital becomes a much more important buffer for absorbing losses.

Efficiency

Banking is a people- and technology-intensive industry, and cost containment is the strategic focal point for banks seeking higher efficiency. Increased competition and banking-product commoditization make revenue-boosting a difficult task. Efficiency can allow a bank to more easily satisfy shareholder demands for earnings growth without overly aggressive risk taking. Our analysis focuses on both management efforts to control and reduce costs, and on the actual results.

Asset Quality

Asset quality is a main driver of future earnings and, therefore, capital generation or erosion. Loan portfolios are generally the largest component of a bank's balance sheet. Therefore, loan quality is considered a key component in determining the creditworthiness of banks.

We wrote earlier that there are many qualitative inputs in assessing asset quality. Such factors can point to the likelihood of future problems long before loan quality ratios so indicate. Nevertheless, the risk profile of a bank can ultimately be seen in its asset quality statistics; and non-performing loans, although inevitably somewhat backward looking, have proven to be a good predictor of near-term loan losses, which ultimately reduce creditor protection.

Selected Ratios

Since Moody's ratings are intended to be a relative ranking of risk, it is important to be able to make global comparisons. To facilitate this, our methodology focuses on ratios that are both meaningful in assessing credit risk and based on data that is available for most banks globally. To reduce the impact of performance distortions in any single period, we have chosen to calculate three-year average ratios. Each of the following ratios, listed according to sub-factor, is mapped to a BFSR score as shown in the accompanying table.

Profitability

Income before taxes and loan loss provisions as percentage of average risk-weighted assets (PPP % Avg. RWA). Pre-provision profits reflect the core earnings power of a bank, and to the extent they are recurring represent the principal buffer against potential future losses. Profits are measured against risk-weighted assets (as measured under the Basel I capital accord) as a proxy for coverage for creditors. This tends to provide a better measure of risk than total assets, because it reflects risk in the balance sheet. We know, however, that this measure of asset risk is less than perfect. In jurisdictions where risk-weighted assets is not disclosed, we will estimate it using main balance sheet and off-balance sheet categories and standard risk weightings. These estimates will be compared to similar peers with disclosed risk-weighted assets as a check on their reasonability.

Income as percentage of average risk-weighted assets (Net Income % Avg. RWA). Bottom-line profitability measures performance after all costs, whether ongoing or one-time. It also captures the benefit of any gains whether or not recurring. Again, we use risk-weighted assets as the denominator for the reasons cited above.

Liquidity

Market funds minus liquid assets % of total assets (Average of three year-end ratios). Market funds consist of all long- and short-term wholesale funding including debt and interbank deposits. Measured against total assets, this is a period-end calculation. This ratio captures the degree to which a bank is reliant on non-core funding (i.e. funding other than customer deposits) to support its asset base.

Capital Adequacy

Tier 1 regulatory ratio. This is the Basel I regulatory ratio as reported by banks (Tier 1 capital as % of risk-weighted assets). Tier 1 is preferred since it is closest to equity and excludes subordinated debt. Subordinated debt is generally unavailable to absorb losses except in liquidation, and as such provides no protection against insolvency.

Shareholders' equity % total assets. This most basic leverage measure is used because it is easily calculated and is widely available. It also excludes Tier 1 hybrid capital elements which may or may not have equity content in Moody's view.

Efficiency

Cost/Income Ratio. This ratio is measured as total non-interest expense (includes net gain or loss on securities sales) relative to total revenues (total of net interest income and non-interest income). This is a measure of a bank's efficiency and its ability to generate incremental profits with added revenue.

Asset Quality

Problem loans % of gross loans. Problem loans include non-accrual loans and accruing loans that are past due 90 days or more. While often a lagging indicator of credit health, it nonetheless is an important measure and one that is widely available.

Problem loans % (shareholders' equity + loan loss reserves). Problem loans (which include non-accrual loans and accruing loans that are past due 90 days or more) are measured against shareholders' equity plus loan loss reserves. We include loan loss reserves in the denominator, rather than netting them out of the numerator, to provide a measure that is easier to compare across different banking systems with different reserving policies.

Summary of Factor Mapping -- Financial Fundamentals

	A	B	C	D	E
Profitability	>=	>= <	>= <	>= <	<
PPP % of Avg RWA	3.5%	2.4% 3.5%	1.0% 2.4%	0.5% 1.0%	0.5%
Net Income % Avg RWA	2.0%	1.7% 2.0%	1.3% 1.7%	0.6% 1.3%	0.6%
Liquidity	<	>= <	>= <	>= <	>=
(Market funds - Liquid Assets) % Total Assets	-10%	-10% 0%	0% 10%	10% 20%	20%
Capital Adequacy	>=	>= <	>= <	>= <	<
Tier 1 ratio (%)	10%	8% 10%	6% 8%	4% 6%	4%
Shareholders' equity % total assets	8%	5% 8%	4% 5%	3% 4%	3%
Efficiency	<	>= <	>= <	>= <	>=
Cost/income ratio	45%	45% 55%	55% 65%	65% 80%	80%
Asset Quality	<	>= <	>= <	>= <	>=
Problem Loans (%) Gross Loans	0.8%	0.8% 2%	2% 5%	5% 12%	12%
Problem Loans % (Shareholders' Equity + LLR)	10%	10% 20%	20% 30%	30% 50%	50%

Measurement Challenges and Other Considerations

Overall Limitations

In selecting the appropriate statistical criteria against which to compare banks globally, we highlight a number of general data limitations.

First and foremost, certain data may not be entirely comparable. In some countries, for instance, loans may be classified as problem loans only after they are 180 days past due, but the cutoff may be 90 days in other jurisdictions. For those banks that report only loans that are 180 days or more past due, we estimate that an additional one-third of that amount are at least 90 days past due.

We also believe there may be considerable differences in the true risk within the reported risk-weighted asset classes. Brazilian government bonds carry a 0% risk-weighting for banks in Brazil, while those same bonds may carry a higher risk-weighting for banks in other jurisdictions. Moreover, off-balance sheet risk is much higher for many banks in the US that have been active securitizers. Such risk is not fully included in risk-weighted assets. As a result, profit and capital ratios based on risk-weighted assets may be overstated for US banks as compared to banks in other countries.

Secondly, ratios are static measures that only describe a bank's historical performance and its current financial condition. As such, statistics can be lagging indicators. A good example is charge-offs relative to the current loan book. Vintage analysis is a better measure. By calculating charge-offs as a percentage of loans at a prior point in time, we are assuming that newly extended credits perform better. Only after the portfolio is "seasoned" do losses and/or non-performing loans start to occur. Moreover, banks with rapid loan growth could exhibit much stronger asset quality statistics than is actually the case.

Thirdly, the necessary data may not always be available. Not all banks are required to file financial statements with the same regularity in all jurisdictions. While our analysis focuses primarily on annual financials, we will use quarterly updates when available to give a more current picture. Furthermore, some or all of the information filed with bank regulators and other securities authorities may not be publicly available.

Also, statistics tend to compartmentalize financial analysis. Financial ratios often ignore linkages among various aspects of an individual bank's business. For example, in reviewing profitability statistics, the widening of the net interest margin tends to point to a positive development, but that change might also be indicative of a higher risk appetite, as shown in a shift in the earning asset mix.

Finally, because they are point-in-time measures, current measurements would not capture changes in managerial strategies that would affect future performance. Such changes should be captured elsewhere in our analysis. But they can affect financial ratios as well. For example, a firm with a high cost-to-income ratio may or may not have a flexible cost structure. The ability to lower expenses to compensate for lower or more volatile revenues depends on a bank's business mix and whether costs are more fixed or more variable relative to revenues.

Where the financial variables required for our ratios are missing, or where we are aware of significant problems with data comparability, we will make adjustments based upon existing financials, comparisons with similar banks, and

discussions with management. We also anticipate that as Basel II is implemented, changes in how risk-weighted assets is calculated may require us to modify some of the definitions for these ratios as well as the published ranges.

The following remarks highlight ratio challenges that are specific to each sub-factor.

Profitability

Although profits are measured against risk-weighted assets as a proxy for coverage for creditors, it may be globally inconsistent. In some jurisdictions, risk-weighted assets may not be disclosed and, therefore, are estimated using main balance sheet categories.

Bottom-line profitability measures performance after all costs and benefits whether or not they are one-time items. However, we recognize that some so-called one-time events may be more likely to recur depending on the type of business. Therefore, this measurement must be assessed in the context of a bank's ongoing business profile. Again, the use of risk-weighted assets as the denominator may not result in full comparability for the reasons cited above.

Liquidity

This ratio captures the degree to which a bank is reliant on non-core funding to support the asset base. Because of limitations on the availability of globally comparable data, our definition of market funds includes all long- and short-term debt including amounts due to other banks. However, we recognize the difference that the maturity structure can make in assessing a bank's liquidity and funding profile. In assessing an individual bank's score under this ratio, we will also consider the maturity structure of the bank's funding, recognizing that this may be based on non-comparable data.

Capital Adequacy

Our first ratio assesses Tier 1 capital against risk-weighted assets as defined under the Basel Capital Accord (Basel 1) and implemented by the bank's regulator. The challenges here are twofold. In many banking systems Tier 1 capital can include various hybrid instruments that may or may not, in Moody's view, possess equity-like characteristics. In addition, risk-weighted assets may also vary from country to country, as noted above, and, unlike total assets, do not reflect the size of a bank's liabilities.

We acknowledge that a simple ratio of shareholders' equity relative to total assets has its limitations. However, we chose it because of our ability to easily obtain this data for every bank we rate, as well as its appeal as a simple measure of leverage or solvency. Adjustments may be made for banks with large matched books, such as universal institutions that have considerable capital market operations, to the extent that we believe such portfolios are truly riskless. Note that we give credit to hybrid securities in accordance with Moody's New Instrument Committee's basket designation.¹⁹ Such adjustments may be different than the higher benefit given to many hybrid instruments in the Tier 1 regulatory ratio.

The new Basel II capital standards for banks worldwide constitute a major step forward in the process of relating the capital base of an institution more tightly to its overall risk profile. Moody's believes that the move towards Basel II will enhance the strategic importance of optimizing the capital position and the capital allocation process as key drivers of banks' financial performance.

In the future, Moody's plans to enhance its capital adequacy methodology for banks and to further clarify the role of capital adequacy in the bank ratings process. In particular, we will devise a capital adequacy scoring system in order to complement our bank financial strength ratings. Although the output of the Basel II framework (Pillars 1 and 2) constitutes a solid basis for measuring a bank's minimum required capital, the new regulatory approach still does not remedy all the deficiencies of the Basel I model. The various elements we plan to take into account will include the following:

- Numerical results: the results of the Basel II calculations, an interrogation of the firm's own economic capital models, and the results of various stress tests.
- Observable performance relative to external benchmarks based on available historical data (e.g. volatility of earnings, volatility of assets, market pricing of structured assets).
- Expert judgment resulting from our risk management assessment effort regarding, for instance, an evaluation of the integration of the capital framework into the bank's risk management environment.

For further information on this, please see Moody's Special Comment "Bank Capital Adequacy in the Context of Basel II: Moody's Approach," August 2006.

19. Please see Moody's Rating Methodologies: "Refinements to Moody's Tool Kit: Evolutionary, not Revolutionary!" (February 2005) and "Refinements to Moody's Tool Kit: An Addendum for Banks and Insurers" (January 2006)

Efficiency

The chosen ratio captures a bank's operating leverage and its ability to generate incremental profits with added revenue. While a low ratio is preferable to a higher one, we will also evaluate the extent to which a bank may be underinvesting in marketing or systems or other capital investments in order to limit spending. We believe that by doing so such institutions could find themselves at a competitive disadvantage.

In addition, we will consider whether those institutions with a high cost-income ratio nonetheless have the flexibility to lower expenses in the face of lower revenues. This is most commonly found at wholesale banks whose employee compensation structure may be closely tied to revenues. However, as noted above, retention of personnel is usually a critical element to long-term success at such firms. The ability to cut employee compensation can be very limited if a bank has offered bonus guarantees or if competitors are continuing to reward employees more substantially.

Asset Quality

Historically, bad loan quality has led to the downfall of many banks. But loan quality cannot be looked at in isolation. A bank's asset quality is ultimately the evidence of strategies which can be conservative, aggressive or some mixture of both. Therefore, it is useful to look at both problem loan ratios and other qualitative and quantitative measures in identifying risk for creditors. In addition, a bank's asset quality must be looked at in the context of the overall economic climate. Low levels of asset quality problems are not unusual during a strong economy, but are not necessarily indicative of performance in a weaker climate.

In some jurisdictions banks may retain troubled loans on their books for an extended period of time. This may challenge comparisons with banks that have the ability or willingness to eliminate their troubled loans more rapidly. However, the presence of sizable volumes of nonperforming loans can also increase workout costs and require considerable management time. In addition, to the extent that reserves are not adequate to eliminate the troubled loans without incurring further losses, then the bank's capital levels and even its earnings may be artificially high compared to banks which have already dealt with their troubled loans.

Putting the Factors Together and Relative Weighting

As a complement to detailed fundamental analysis necessary to develop bank financial strength ratings, Moody's has utilized the backbone of the rating methodology presented herein to develop a rating scorecard which can be useful as a guide to estimating the likely range into which a bank's BFSR may fall, based on reference to the various rating level guidelines and mappings outlined within this methodology. As noted at the outset of the report, this scorecard will be used by Moody's analysts as the first step in determining BFSRs. It should also enable investors and issuers to estimate a BFSR for most banks globally within two notches.

A Two-Stage Process for Arriving at the BFSR

The five key rating factors can be divided into two major BFSR determinants: Qualitative Factors (QF), which comprises the first four key rating factors (Franchise Value, Risk Positioning, Regulatory Environment, and Operating Environment), and Financial Fundamentals (FF), which comprises the fifth rating factor. The following section explains how the QF-derived BFSR (QFBFSR) and the FF-derived BFSR (FFBFSR) are arrived at in the rating scorecard and how these two are then combined to arrive at an estimated BFSR.

Score for each Sub-factor is Converted into a Numerical Value

Using Moody's BFSR rating scale, each of the sub-factors that contribute to the four key qualitative rating factors in the QFBFSR are assessed and assigned a score using the broad BFSR scale from A to E. This score is then converted to a 13 point scale, which represents the full range of BFSRs, including + and - modifiers (i.e. A=1; B=4; C=7; D=10; and E=13). Weightings are then applied to determine an overall numerical value for each key factor. This overall numerical value is then converted back to the BFSR scale. For example, for Franchise Value, the scores for each of the five Franchise Value sub-factors are weighted equally at 20% and then combined to arrive at a numerical score for Franchise Value. This process is repeated for each of the other rating factors.

Weighting Within Risk Positioning May Shift

While the sub-factor weightings within most of the key qualitative rating factors are constant, the weightings on the sub-factors within Risk Positioning are more dynamic. This reflects our view of the significant impact which undue concentration risk, weak controls, opaque financial reporting, or poor corporate governance can have on a bank's intrinsic risk profile. In particular, if a bank scores a D or E on Credit Risk Concentration, that score receive an additional 30% weighting within the overall Risk Positioning score (with the weighting on all other sub-factors being reduced in equal proportion). A similar shift in weighting occurs if a bank scores a D or E on Quality of Financial Information.

Finally, as noted above, if a bank scores an E on either Controls or on the Insider and Related-Party Risks component of Corporate Governance, then the overall Risk Positioning score is set to an E as well, regardless of the scores on the other sub-factors. And if a bank scores a D on either Controls or Insider and Related-Party Risks, then the overall Risk Positioning score is set to at least a D, but could still be lower if the scores on the other sub-factors would otherwise warrant it.

Financial Fundamentals-Derived BFSR (FFBFSR) and Category Weightings

The same process is followed to arrive at the FFBFSR. The five sub-factors within FF – (1) profitability, (2) liquidity, (3) capital adequacy, (4) efficiency, and (5) asset quality – are weighted equally, at 15.75% each, to reflect their equal analytical importance, with the exception of efficiency, which is weighted 7%. A “maximum factor” adjustment is given a weighting of 30% that applies to the lowest-scoring of the eight financial ratios. The adjustment is designed to reflect the additional weight Moody’s analysts place on low scoring elements of a bank’s financial fundamentals in their ratings analysis. It also serves to minimize the impact of inevitable dilution that is inherent in such a multi-factor scorecard.

Different Weightings in Mature vs. Developing Markets

Each of the four key factors comprising the QFBFSR is assigned a different weighting in the scorecard to arrive at the QFBFSR. However, we use different weightings depending upon whether we define the bank in question as operating in mature or developing markets. Although there are many ways of making such a distinction, we focus on the level of the foreign currency (FC) ceiling in each country. If the FC ceiling is Aa1 or higher (i.e. Aaa), we will regard the market in question as mature. If it is lower than Aa1, we will regard the market as developing.

For banks in mature markets the weightings are Franchise Value (40%), Risk Positioning (40%), Regulatory Environment (10%), and Operating Environment (10%). For banks in developing markets, the weightings are Franchise Value (10%), Risk Positioning (30%), Regulatory Environment (30%), and Operating Environment (30%).

Similarly, the weightings of the QFBFSR and the FFBFSR also vary depending on whether the bank is operating in mature or developing markets. For banks operating in a mature market, the QFBFSR is weighted 30% and the FFBFSR 70%. For those banks operating in developing markets, this is reversed, i.e. the QFBFSR is weighted 70% and the FFBFSR 30%. After being weighted, the FFBFSR and QFBFSR are then combined to arrive at an estimated BFSR. The tables in Appendix A set out the contribution of each factor and sub-factor to the BFSR to help readers gauge their respective impact (both within each category and overall).

Why the Weighting Differs from Mature to Developing Markets

The different weighting approaches reflect Moody’s view of the different challenges banks face in developing markets where economic volatility and general risks can be quite substantial. In addition, banks operating in a mature market generally benefit from more effective financial reporting and regulatory environments that would allow outside observers to ascribe more analytical weight to available disclosed numbers when making a credit decision.

Related Research

Rating Methodologies:

[Bank Credit Risk -- An Analytical Framework for Banks in Developed Markets, April 1999 \(44246\)](#)

[Bank Credit Risk in Emerging Markets -- An Analytical Framework, July 1999 \(46631\)](#)

[Revised Country Ceiling Policy, June 2001 \(67679\)](#)

[The Implications of Highly Dollarized Banking Systems for Sovereign Credit Risk, March 2003 \(77718\)](#)

[Piercing the Country Ceiling: An Update, January 2005 \(91215\)](#)

[Request for Comment: Incorporation of Joint-Default Analysis for Systemic Support into Moody's Bank Rating Methodology, October 2005 \(94781\)](#)

[Update to Proposal to Incorporate Joint-Default Analysis into Moody's Bank Rating Methodology, April 2006 \(97108\)](#)

[Revised Foreign-Currency Ceilings to Better Reflect Reduced Risk of a Payments Moratorium in Wake of Government Default, May 2006 \(97555\)](#)

[Bank Joint Default Analysis: Rating Methodology Update, August 2006 \(98573\)](#)

Special Comments:

[Emerging Market Bank Ratings in Local and Foreign Currency: The Implications of Country Risk and Institutional Support, December 2001 \(72806\)](#)

[Risk Disclosures of Banks and Securities Firms, May 2006 \(97366\)](#)

[Bank Capital Adequacy in the Context of Basel II: Moody's Approach, August 2006 \(98526\)](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Appendix A

BFSR SCORECARD WEIGHTS: MATURE MARKETS

		Category Weight	Overall Weight	Sub-Factor Weight	Overall Weight		
MATURE MARKETS	Qualitative Factors	Franchise Value	40%	12%	Market share and sustainability	20%	2.4%
					Geographical diversification	20%	2.4%
					Earnings stability	20%	2.4%
					Earnings diversification	20%	2.4%
					Vulnerability to "event risk"	20%	2.4%
		Risk Positioning	40%	12%	Corporate Governance	16.7%	2.0%
					Controls	16.7%	2.0%
					Financial Reporting Transparency	16.7%	2.0%
					Credit Risk Concentration	16.7%	2.0%
					Liquidity Management	16.7%	2.0%
		Regulatory Environment	10%	3%	Market Risk Appetite	16.7%	2.0%
					Licensing	10%	0.3%
					Capital Regulation	15%	0.5%
	Other Prudential Regulation				15%	0.5%	
	Supervision				30%	0.9%	
	Operating Environment	10%	3%	Independence & Enforcement	30%	0.9%	
				Economic Stability	33.3%	1.0%	
				Integrity and Corruption	33.3%	1.0%	
				Legal System	33.3%	1.0%	
	Financial Fundamentals	Profitability	15.75%	11%	PPP % Avg RWA	50%	5.5%
					Net Income % Avg RWA	50%	5.5%
		Liquidity	15.75%	11%	(Market funds - Liquid Assets) % Total Assets	100%	11.0%
Capital Adequacy		15.75%	11%	Tier 1 ratio (%)	50%	5.5%	
				Shareholders' equity % total assets	50%	5.5%	
Efficiency		7.00%	5%	Cost/income ratio	100%	4.9%	
Asset Quality		15.75%	11%	Problem Loans % Gross Loans	50%	5.5%	
				Problem Loans % (Equity + LLR)	50%	5.5%	
Lowest Score	30.00%	21%	Assigned to lowest scoring financial ratio	100%	21.0%		
					100.0%	100.0%	

Note that in the table above there is at least one adverse consideration for Corporate Governance. If there were no adverse considerations, it would receive no weight and the weights for all other factors in Risk Positioning would increase by an equal amount.

BFSR SCORECARD WEIGHTS: DEVELOPING MARKETS

		Category Weight	Overall Weight	Sub-Factor Weight	Overall Weight			
DEVELOPING MARKETS	Qualitative Factors	Franchise Value	10%	7%	Market share and sustainability	20%	1.4%	
					Geographical diversification	20%	1.4%	
					Earnings stability	20%	1.4%	
					Earnings diversification	20%	1.4%	
					Vulnerability to "event risk"	20%	1.4%	
		Risk Positioning	30%	21%	Corporate Governance	16.7%	3.5%	
					Controls	16.7%	3.5%	
					Financial Reporting Transparency	16.7%	3.5%	
					Credit Risk Concentration	16.7%	3.5%	
					Liquidity Management	16.7%	3.5%	
		Regulatory Environment	30%	21%	Market Risk Appetite	16.7%	3.5%	
					Licensing	10%	2.1%	
					Capital Regulation	15%	3.2%	
	Other Prudential Regulation				15%	3.2%		
	Operating Environment	30%	21%	Supervision	30%	6.3%		
				Independence & Enforcement	30%	6.3%		
				Economic Stability	33.3%	7.0%		
				Integrity and Corruption	33.3%	7.0%		
	Financial Factors	30%	Profitability	16%	5%	Legal System	33.3%	7.0%
						PPP % Avg RWA	50%	2.4%
			Liquidity	16%	5%	Net Income % Avg RWA	50%	2.4%
						(Market funds - Liquid Assets) % Total Assets	100%	4.7%
			Capital Adequacy	16%	5%	Tier 1 ratio (%)	50%	2.4%
Shareholders' equity % total assets						50%	2.4%	
Efficiency			7%	2%	Cost/income ratio	100%	2.1%	
Asset Quality			16%	5%	Problem Loans % Gross Loans	50%	2.4%	
	Problem Loans % (Equity + LLR)	50%			2.4%			
Lowest Score	30%	9%	Assigned to lowest scoring financial ratio	100%	9.0%			
					100.00%	100.0%		

Note that in the table above there is at least one adverse consideration for Corporate Governance. If there were no adverse considerations, it would receive no weight and the weights for all other factors in Risk Positioning would increase by an equal amount.

To order reprints of this report (100 copies minimum), please call 1.212.553.1658.
Report Number: 98875

Author

David Fanger

Senior Production Associate

Charles Ornegri

© Copyright 2006, Moody's Investors Service, Inc. and/or its licensors and affiliates including Moody's Assurance Company, Inc. (together, "MOODY'S"). All rights reserved. **ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY COPYRIGHT LAW AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.** All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, such information is provided "as is" without warranty of any kind and MOODY'S, in particular, makes no representation or warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability or fitness for any particular purpose of any such information. Under no circumstances shall MOODY'S have any liability to any person or entity for (a) any loss or damage in whole or in part caused by, resulting from, or relating to, any error (negligent or otherwise) or other circumstance or contingency within or outside the control of MOODY'S or any of its directors, officers, employees or agents in connection with the procurement, collection, compilation, analysis, interpretation, communication, publication or delivery of any such information, or (b) any direct, indirect, special, consequential, compensatory or incidental damages whatsoever (including without limitation, lost profits), even if MOODY'S is advised in advance of the possibility of such damages, resulting from the use of or inability to use, any such information. The credit ratings and financial reporting analysis observations, if any, constituting part of the information contained herein are, and must be construed solely as, statements of opinion and not statements of fact or recommendations to purchase, sell or hold any securities. **NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.** Each rating or other opinion must be weighed solely as one factor in any investment decision made by or on behalf of any user of the information contained herein, and each such user must accordingly make its own study and evaluation of each security and of each issuer and guarantor of, and each provider of credit support for, each security that it may consider purchasing, holding or selling.

MOODY'S hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MOODY'S have, prior to assignment of any rating, agreed to pay to MOODY'S for appraisal and rating services rendered by it fees ranging from \$1,500 to \$2,400,000. Moody's Corporation (MCO) and its wholly-owned credit rating agency subsidiary, Moody's Investors Service (MIS), also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually on Moody's website at www.moody.com under the heading "Shareholder Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

This credit rating opinion has been prepared without taking into account any of your objectives, financial situation or needs. You should, before acting on the opinion, consider the appropriateness of the opinion having regard to your own objectives, financial situation and needs.